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(54) Title: METHOD AND APPARATUS FOR TRACKING CONSUMERS

(57) Abstract

Web–site technologies and credit card interfaces are combined to create a system that supports the "nline–to–offline" retail market. Retailers track consumers from point–of–contact at a Web site advertisement (56) to point–of–purchase at their brick and mortar store (24). A consumer is provided with electronic advertising promotions or offers that provide incentives to purchase the participating merchants' products (56). The consumer activates the offer and creates a virtual coupon for the participating merchant by registering a credit card number(s) that will be used when making the purchase (62). Credit card transactions made at the participating merchant's stores are checked against coupons for a match on the credit card number (33). Web activity is thereby tracked from initiation on the Internet to the purchase of products and services at the brick and mortar store (24).

# METHOD AND APPARATUS FOR TRACKING CONSUMERS

## FIELD OF THE INVENTION

The present invention relates generally to a method and apparatus for tracking consumers from point of contact with an electronic or on-line advertisement, to the point of sale at an on-line or off-line merchant.

## BACKGROUND OF THE INVENTION

Consumers today have adopted the Internet as a significant research tool for many aspects of traditional off-line activities. However, despite consumers "surfing the net" to find good deals at the growing number of Internet stores, many consumers still prefer to complete transactions off-line at more traditional brick and mortar stores. Consumers still want customer service and want to see, hear, touch, smell, taste and try products before purchase. This "click and mortar" commerce is growing at a rapid rate and merchants are realizing the need to provide this type of commerce if they are going to compete in today's retail world.

An "on-line" purchase using a credit instrument is a purchase of goods or services that is made while searching the Internet.

Conversely, an "off-line" purchase using a credit instrument is a purchase that is not made while searching the Internet, but rather in person or by the telephone. On-line purchases may be tracked using information flowing on the Internet. However, a need exists to provide "click and mortar" commerce that includes on-line incentives redeemable off-line at brick and mortar stores by correlating the off-line purchases with the on-line marketing schemes.

On-line commercial transactions have become very common. For example, a consumer may access a Web-site providing information about cars. This Web-site may display an advertisement for a book on purchasing or leasing cars that says, "buy this book through Amazon.com." The on-line consumer may click on the advertisement which directs the consumer to the Amazon Web-site where an on-line purchase may be made, and the consumer may receive a discount in making the purchase.

Some merchants have their own Web-site which the consumer may specifically access as a result of viewing an Internet address in a magazine or linking to as a result of an Internet search. Currently, many of the merchants operating their own private Web-sites will offer coupons at that Web-site. The merchant can determine the identity of consumers who access their Web-site by providing an interface with the consumer. The consumer may then make an on-line purchase and/or visit the merchant's store and purchase the goods or services in person. The merchant may provide a monetary incentive (e.g., 10% discount) for purchasing the goods or services from the brick and mortar store after registering with the merchant's Web-site. No additional tracking system is required because the Web-site operated by the merchant provides the merchant with a list of registered consumers who have accessed the Web-site and interfaced with it. However, only a small number of users generally access Web-sites operated by small merchants. These merchants commonly extend their Web-site presence by contracting with other sites (e.g., search engines). However, tracking consumers becomes exceedingly more difficult in this case because user identities become harder to track and determine, particularly when no registration scheme is provided. The goal of merchants is

to extend their point of promotion and offer to other third party
Web-sites thereby extending their potential sales counter across the
Web.

The ability to determine effectiveness in marketing and
advertising is crucial to a merchant's Internet presence. This type
of information has historically been extremely difficult to
determine. However, with the flow of information on the Internet,
tracking events (e.g., transactions) and determining information
useful in improving marketing and advertising is more readily
available. Tracking and management of commerce related to the
Internet is generally known. For example, systems exist for
tracking the purchase of products and services over the Internet.
Other systems are known that provide for determining behavioral
profiles of computer users.

Still other systems are known that provide and manage awards
or incentives for users accessing and using the Internet. For
example, one such system provides electronic certificates on the
Internet that can be printed and presented at stores for discounts
or promotions or transmitted electronically by the consumer's
computer to the stores and redeemed when "checking out." However,
such a system still may require printing and carrying the coupons
and/or notifying the store of the coupon. Such a system also
requires the merchants to maintain databases to keep track of
consumer purchases and to ensure that the coupon presented and the
good or service provided match. Further, such a system fails to
provide a centralized manner to advertise goods and services and
extend a merchant's presence on the Internet. Further, no provision
is made for single enrollment and tracking using a credit card
number. Additionally, a flexible system providing multiple reward
types and ease in determining and modifying the requirements for the
rewards is not provided.

What is needed is a process for broadly distributing
electronic advertisement promotions across the World Wide Web,
easily tracking the consumers who access the electronic
advertisement promotions, and rewarding consumers who access the
coupon and purchase specified goods and services from specified
merchants. This system needs to provide the merchants with a simple

and efficient manner to redeem the promotions while ensuring
accuracy and protecting against forgeries.

## SUMMARY OF THE INVENTION

The present invention solves the needs for an easy tracking
system and provides a method and apparatus that combines Web-site
technologies and payment card (e.g., credit card) interfaces to
create a unique consumer tracking system that supports the "click
and mortar" retail market. The invention allows users of the system
to easily track consumers from point-of-contact at a Web-site
advertisement to point-of-purchase from a merchant store, which may
be either brick and mortar, Web or telephone. Generally, through
the Web, a consumer is provided with electronic advertising
promotions or offers that provide incentives for consumers to make
purchases of products and services provided by participating
merchants. The consumer may activate the offer and create a virtual
coupon (or electronic coupon) for the participating merchant by
registering a payment card number(s) that will be used when making
the purchase. Payment card transactions made at the participating
merchant's stores are preferably checked against coupons for a match
on payment card number. Web activity is thereby tracked from
initiation on the Internet to the purchase of products and services
at any of a merchant's stores  by using the registered payment card.
Tracking purchases back to brick-and-mortar stores is the most
common use of the invention.

Incentives are preferably provided in the form of rewards such
as cash back on a consumer's payment card, points, gift
certificates, frequent flyer miles, or other valuable merchandise.

Preferably tracking is based on payment card numbers, but the
invention is not so limited and other trackable elements may be
provided, such as, for example, a telephone number.

The invention provides a marketing vehicle and unique platform
for brick and mortar merchants to drive online shoppers to
neighborhood stores. The invention allows for the distribution of
merchant offers to targeted groups of shoppers most likely to
respond to the offer across an increasingly expansive network of Web

sites. Merchant offers are preferably placed at Web-sites, and
specifically at highly visible locations within those Web-sites,
where shoppers are looking for information on products and services,
on where to purchase the products and services, and on how to save
money.

The invention allows merchants to pay only for marketing that
produces quantifiable results (i.e., a "pay only for sales"). This
is possible because the invention preferably tracks shoppers from
point of contact (on a Web site) to point of purchase (at a brick
and mortar store). Consequently, merchants can participate in a
program constructed according to the invention and pay only when
offers result in sales. The fee may be a percentage of sales that
varies, depending on the category of merchandise being sold. The
"merchant discount" may also be shared between the shopper (rebate),
the Web site (cost for marketing placement), and the provider of the
system (Manager) constructed according to the present invention
(service fee). Alternately, the invention allows for the merchant to
pay for other information gathered through the tracking of the
consumers, such as information regarding purchaser behavior or the
number of shoppers visiting the web-site and activating coupons.

The invention can be offered either as a turnkey solution that
provides for promoting the merchant's create, distribute, and manage
complex marketing programs., or as individual services that a
merchant may need

While the principal advantages and features of the present
invention have been explained above, a more complete understanding
of the invention may be attained by referring to the description of
the preferred embodiments which follow.

## BRIEF DESCRIPTION OF THE DRAWINGS

Fig 1. is a block diagram of a consumer tracking incentive
system in accordance to the principles of the present invention;

Fig. 2 is a block diagram of another consumer tracking system
in accordance to the principles of the present invention;

Fig. 3 is a sample Internet screen shot of an advertisement
banner on a merchant web-site;

Fig. 4 is a sample Internet screen shot of a web-interface for registering members;

Fig. 5 is a sample Internet screen shot of a web-interface for members to access their accounts;

Fig. 6 is a sample Internet screen shot of a web-interface for entering information to become a member;

Fig. 7 is a sample Internet screen shot of a web-interface for viewing activated virtual coupons;

Fig. 8 is a sample Internet screen shot showing merchant offers;

Fig. 9 is a sample Internet screen shot of a web-interface for activating a merchant offer;

Fig. 10 is a block diagram of a preferred system architecture in accordance to the principles of the present invention;

Fig. 11 is a flow chart of a virtual coupon validation process;

Fig. 12 is a flow chart of a consumer tracking incentive system in accordance to the principles of the present invention; and

Fig. 13 is a diagram of the relationship between the various components of a system in accordance to the principles of the present invention.

## DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

The method and apparatus of the present invention provides a Web-based consumer tracking system preferably having four general steps or functions:

(1) creation and distribution of offers;
(2) consumer experience;
(3) tracking; and
(4) settlement/administration of rewards.

Essentially, the creation and distribution step creates offers on the Web which consumers can activate through various "consumer experiences." The activated offers (i.e., virtual or electronic coupon) contain a trackable element which is the payment card

number, such as a credit card number, and is used to match the off-line transaction to the coupon.  The qualified off-line transaction is then eligible for reward processing and the invention further provides for handling settlement and administration of the reward.

As used herein, an offer preferably refers to a promotion for a merchant.  A virtual coupon preferably refers to activation of an offer by a consumer (or member) and that makes the offer valid at, for example, a given set of merchant locations for a particular credit card for a particular time period.  Also, when reference is made to a consumer, this may include, for example, shoppers, members of the system 12, or users of the system 12.

Referring generally to Figures 1 and 2, the preferred embodiment of the present invention provides a Web-based consumer tracking  system 12 that uses a credit instrument infrastructure 14 and Web-based technology, including the Internet 16 to provide consumers or consumers 18 with incentives in the form of electronic advertising  offers  to preferably make "off-line" purchases of products and services provided by participating merchants.  The Web-based technology is not limited to the Internet and may also include, for example, Web TV, interactive TV, and cell phone systems.

To participate in a consumer tracking program in accordance to the principles of the present invention, a consumer 18 must preferably first register with the Web-based consumer tracking system 12 via an interface associated with an electronic advertising promotion, as further disclosed herein, and then use a specific payment or credit instrument 34, such as a credit card, to make an "off-line purchase" of specified products and services.  The "off-line purchase" initiated on-line may be tracked using the specific credit instrument 34.  The present invention thereby provides for correlating off-line purchases with registered consumers who have activated virtual coupons.  In accordance with the present invention, off-line purchases made by consumers are tracked via the credit instrument infrastructure 14 and compared to a list of registered consumers who have activated virtual coupons.

## Creation and Distribution of Offers

To create an offer, merchants access the consumer tracking system 14 via a merchant computer 22, or contact the Manager of the consumer tracking system 12 via telephone or mail. A merchant may use a Web-based interface implemented on the merchant computer 22 to create a coupon by simply providing information as requested by the interface. The offer is automatically generated by the interface using a scripting language, which is a Web-based technology known in the art.

As shown specifically in the two embodiments in Figures 1 and 2, offers are available to consumers who use Internet devices such as: (1) personal computers 28, and specifically personal computers running browsers 28'; (2) personal digital assistants (PDAs) 30 and 30', which may communicate with the Internet using a modem 32; (3) email 52 on personal computers; and (4) phones, including cellular phones 54 having mini browsers. As shown in Fig. 2, the offers are preferably distributed over the Web-site as advertisement banners on affiliate sites 56 or as a link to be searched for on a co-branded site 58, or may appear as a line or be searched for on an affiliate site 60 provided by the manager (i.e., the company providing the tracking and incentive system according to the present invention), sometimes referred to herein as a "club."

## Offer Components

Each offer preferably comprises several components, including: (1) a particular set of products or services (product level offers) or a particular store 24 (no products specified); (2) a collection of stores which may include all of the merchant's store locations or may be specific locations, or may include stores all belonging to the same merchant or stores belonging to different merchants (e.g., all stores in a mall); (3) the activity requirements (e.g., on your next purchase, minimum purchase of $10, purchase must be made before 12/31/2000); and (4) the reward (e.g., 10% cash back or 3 points for every dollar spent) for qualifying transactions.

Referring now to Fig. 13, a pseudo entity relationship diagram is shown that represents the aspects that are provided and related in the system in accordance with the present invention. These include, for example, offers and store sets. Provided below as Exhibit C is a list of relationships of the different aspects of an offer as shown in Fig. 13.

## Offer Distribution

The consumer tracking system distributes the merchant offer information stored in the coupon database 25 via the Internet 16 to target groups of consumers most likely to respond to the offer. As shown in Fig. 2, the offers are preferably distributed as advertisement banners on affiliate sites 56 or as a link to be searched for on a co-branded site 58, or may appear as a link or image on an affiliate site 60 powered by the Manager. As an example, a merchant, which is a chain of auto parts stores, creates an offer, to encourage consumers to come to auto parts stores at particular locations, indicating the locations and indicating a monetary incentive value which may include a dollar amount (e.g., a percentage of a retail price such as "10% off"). The coupon is then targeted to interested consumers on Web-sites that provide material related to automobiles. Examples might include: "cars.com", Yahoo.auto", a "hotbot shopping directory that has information related to automobiles". The invention matches the appropriate media with the appropriate products or services of specific merchants.

As shown specifically in the two embodiments in Figures 1 and 2, offers are available to consumers who use Internet devices such as: (1) personal computers 28, and specifically personal computers running browsers 28'; (2) personal digital assistants (PDAs) 30 and 30', which may communicate with the Internet using a modem 32; (3) email 52 on personal computers; and (4) phones, including cellular phones 54 having mini browsers. As shown in Fig. 2, the offers are preferably distributed over the Web-site as advertisement banners on affiliate sites 56 or as a link to be searched for on a co-branded site 58, or may appear as a line or be searched for on an affiliate site 60 provided by the manager (i.e., the company providing the

tracking and incentive system according to the present invention),
sometimes referred to herein as a "club."

Consumer Experiences

Registration and Offer Activation Using Web-based Interface

Consumers preferably register with the consumer tracking
system by supplying general information, including at least a
payment card number (e.g., credit card number), and preferably also
a name and email address at a registration page 62.  A consumer may
use a Web-based interface implemented on the consumer computer 28 as
shown in Figs. 4 and 5 to provide the necessary information
requested by the interface.  The consumer then may activate offers
and create coupons on offer activation pages 64 (i.e., Web-sites
providing virtual coupons), which is an instance of the offer
associated with a payment card number.  The consumer registration
and coupon information are preferably saved in a database 66 having
a coupon database 25 and a registered consumer or consumer database
33.  The database 66 is preferably provided and maintained by the
Manager of the system in accordance with the present invention.

Registration and Offer Activation Using Search Engine

Referring again to Fig. 1, consumers commonly use the Web-site
to research products and services and to research topics in which
they are interested.  The consumer 18 typically accesses the
Internet via a computer 28 or a PDA 30 and modem 32.  In the
automobile parts example herein, a consumer might use a search
engine to search for auto parts dealers in San Jose, California.
The search engine provides the consumer with search results
accompanied by banner advertisements which may include an offer
according to the present invention.  If a consumer is registered
with the system, upon clicking on the offer, the consumer's profile
is retrieved, and an interface invites the consumer to register for
the offer.  Scripts are built in to the coupon, and the information
previously provided by the consumer is transmitted back to the

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consumer tracking Web-site 20.  If a user clicks on the  offer and
the user is not signed up with the system, the user is prompted to
enter consumer information including one or more credit instrument
account numbers.  To register with the shopping incentive program
for the particular coupon, the consumer interfaces with the coupon
window as shown in Fig. 9, and provides the consumer information
which is then transferred to the system 12 and stored in the
registered consumer database 33.

The consumer information required for coupon registration in
addition to a credit card number may include the zip code of a
locality in which the consumer intends to shop.  The zip code
information may be used to determine and display merchant offers at
stores which are located in a predetermined proximity of the area
indicated by the zip code entered by the consumer.  Thus, the search
results may be appropriately limited to points of purchase to which
the consumer is likely to be willing to travel.

The consumer information required for coupon registration in
addition to a credit card number may also or alternatively include
name, address, telephone number, social security number, as well as
additional account numbers appearing on other credit instruments 34.
Thus, the system in accordance with the present invention may
determine user profile or other data associated with purchases
resulting from on-line promotions.


Registration and Offer Activation Using e-wallet


The consumer information may be entered, for example, via an
electronic wallet system.  Electronic wallets ("e-wallets") provide
a consumer with the ability to automatically upload personal
information, including one or more credit instrument numbers to a
Web-site.  For example, a user who has already entered his or her
credit instrument number in a secure form in an e-wallet may provide
the e-wallet to a Web-site page upon request for information, which
then automatically provides the information without having to
reenter any further information.  Specifically, the user may drag
and drop with a mouse the e-wallet from, for example, an e-wallet
icon provided on the user's browser, to a specified location on the

Web-site. E-wallets containing encrypted payment information such as credit cards and may provide interface through known APIs to extract credit card information stored on the e-wallet to thereby avoid re-entering credit card information. Other mechanisms may also be provided to eliminate the need to repeatedly fill in information, such that the user can automatically provide user information to a Web-site.

### Registration and Offer Activation for "e-clubs"

Certain "electronic clubs" or "e-clubs" provide services wherein the club Web-site already has the credit instrument numbers so that the system of the present invention may identify the consumer via the e-club which provides the consumers identity and credit instrument numbers to the system. Therefore, consistent with the present invention, partnerships may be formed between the Manager of the Web-based consumer tracking system and services which already have information associated with potential participating consumers. These "e-clubs" have a subscribed base of users that already have registered their credit card with the club. For example, a club may be an Internet service provider (ISP) who has subscribed a base of users that have registered their credit cards for various purposes, including, for example, to pay for ISP services in advance. These "e-clubs" may desire to make the present invention and the offers provided available to their subscribers. The Manager of the system and the "e-club" would interface with each other through known and/or proprietary APIs such that the Manager of the system could retrieve credit card information from the ISP. Subscribers of the "e-club" who wish to take advantage of the offers would not have to re-enter their credit card information once enrolled. The members of the "e-club," upon logging in on their ISP's home-page, may be promoted as to whether they wish to be enrolled in a system in accordance with the present invention that will provide the with promotions for use at merchant 40 stores.

### Registration and Offer Activation Promoting Specific Credit Instruments

Other entities may also partner with the Manager of the
system.  For example, the coupon registration interface may suggest
that the consumer use a particular credit instrument provided by a
particular bank.  Credit instrument companies already have the
credit instrument number and may want to use the present invention
to attract their consumers that are using their credit instrument,
to shop at certain stores.  For example, a merchant bank (e.g.,
First USA) might sign up consumers for a Web-based shopping
incentive program according to the present invention.  Consumers may
then be encouraged to use the credit instruments of that merchant
bank in accordance with the Web-based shopping incentive program of
the present invention.


Use of Cookies to Identify Consumers


The consumer or Internet user may also be automatically
identified on the Web-site via a cookie (i.e., a "membership number"
or a digital ID value).  A cookie is a Web-site technology that
allows for automatic recognition of a user via the user's browser.
Internet "cookies" associated with a particular Web-site are
provided to the browsers of the Internet (i.e. users) accessing that
particular Web-site.  If and when the user accesses the particular
Web-site again, the Web-site is able to identify the user by reading
the particular cookie.  The digital ID's provide another unique
identity that may be carried around by a consumer on the Web-site
(in association with banks and the government) and this unique
identity may be associated with credit instrument numbers.
Specifically, with respect to the use of cookies in connection
with the present invention, the identity of a consumer is determined
with the use of the cookie issued by the Manager of the system.  The
cookie may be placed on the consumers' computer after the consumer
has registered with the Manager and contains an identifier that
determines the identity of the consumer.  This identifier will link
the consumer to his or her profile information stored in the
consumer data base 33.  When a promotion is activated, a virtual
coupon is thereby created for the given consumer identified by the
cookie.  A consumer may refuse to accept cookies on his computer

(e.g., when multiple users may have access to a single computer) in which case the system requires the consumer to log in each time so that the consumer may be properly identified. Once identified, the consumer will be able to activate a promotion.

Security for Consumer Information

In accordance with the present invention, for security purposes, the consumer information is transmitted via the Internet in an encrypted format. As disclosed herein, in one embodiment, the consumer may only be required to enter partial credit instrument account numbers so that an additional measure of security is provided.

When the consumer enters information associated with a credit instrument, this information is encrypted. The consumer tracking system of the present invention preferably provides the same level of protection provided by banks (e.g., encryption using public and private keys). Information transmitted within the credit instrument infrastructure and transmitted from the store 24 to the processing agent 44, is also afforded a level of protection via dedicated lines. The information is transmitted from the merchant to the merchant processor.

Tracking Offline Transaction

Use of Processing Agent

In the credit instrument industry, there is a consumer side and a merchant side. Issuing banks (e.g., Citibank, First USA, Bank of America) own the relationship with the consumer. Merchant processors 40 own the relationship with the merchant.

The processing agent 44 interfaces with a merchant processor and retrieves all of the credit instrument transactions involving merchants participating in the Web-based consumer tracking system of the present invention. Reports of all credit instrument transactions are recorded every day. The processing agent 44 then

processes all credit instrument transactions against the consumer credit instrument numbers.

The system preferably includes processing agents 44 that are entities that can receive credit card transaction information from merchant processors 40 and provide credit card transaction information to the Manager. The merchant processors 40 are the companies that process the credit card transactions made at the merchant's store and that forward this information to the processing agent 44. The processing agent 44 preferably receives a file of registered merchants and coupons on a scheduled basis, usually daily, and stores the information in a merchant database 68. The merchant database 68 of the processing agent 44 is preferably established from the database 66 of the Manager, which includes a database 67 of registered merchants. It should be noted that reference to the processing agents 44 may refer to the entities themselves or to the systems (i.e., computers, databases, etc.) provided by the entities. Additionally, the other payment card transactions in addition to credit card transactions may be processed in accordance with the present invention. Therefore, although the system in accordance with the present invention is described with respect to processing and tracking "click and mortar" commerce based on credit card transactions, the invention is not so limited and the invention may be provided in connection with other payment cards, for example specific store cards.

Preferably, when a consumer makes a credit card transaction 70 (i.e., credit card purchase) at a registered merchant location 24 (i.e., a merchant store), the credit card transaction flows through the normal credit infrastructure, that is, through the merchant processor 40.

The processing agent receives the credit card transaction from the merchant processor 40 and performs a transaction matching process 76 to determine if the credit card transaction matches a coupon. A match is realized if the following conditions are true:

(1) Transaction.credit_card_number = coupon.credit_card_number; and

(2) Transaction.date >= coupon.begin_date; and

(3) Transaction.date <= coupon.end_date; and

(4) Transaction.merchant_location = coupon.merchant_location. Thus, the registered credit card number must match the credit card number associated with the virtual coupon, with the transaction occurring on or after the start data of the coupon, but on or before the end date of the coupon, and the transaction must occur at the merchant location that offered the on-line virtual coupon. A transaction that satisfies these conditions is considered to be a potentially qualified transaction (PQT) 78 and the PQTs are returned to the Manager. A rules-based engine 80 is preferably provided that may further qualify the transactions.

The system tracks consumers from the point-of-contact at a Web-site to the point-of-purchase at brick and mortar stores. This is accomplished by the matching of credit card transactions to virtual coupons clipped by the consumer as described herein. This process requires the collection of coupons which include credit card information and preferably transmitting the coupons along with a list of merchant ids (MIDs) to the processing agent 44.

The processing agent uses the list of MIDs and the coupons to filter the credit card transactions and return those transactions that match the parameters in the coupon. The data preferably exchanged to process the virtual coupons is: a merchant file, a coupon file and PQTs (potentially qualified credit card transactions).

With respect specifically to the processing by the processing agent 44, merchants are preferably uniquely identified by the merchant ID or a MID. MIDs are assigned to merchants by their acquirer processor. Each acquirer processor has an identification scheme that allows them to assign unique MIDs to their merchants. Coupons are preferably identified by a unique coupon ID number. A coupon represents a consumer who has subscribed to a merchant's offer (i.e., clipped a coupon) and is the combination of a credit card number, MID, and an offer number (i.e., reward id).

Information Transmitted Between Manager and Processing Agent

With respect to the transferring of information contained in files for processing by the processing agent 44, the merchant file

and the coupon file are preferably transmitted to the processing
agent 44 each day and may be transferred using file transfer
protocol (FTP) to the processing agent's 44 FTP site.  The
information transferred is preferably encrypted for security.
Preferably, the merchant file is sent to and from the processing
agent 44 and the Manager, the coupon file is sent to and from the
processing agent 44 and the Manager, and PQTs are sent from the
processing agent 44 to the Manager.  All files preferably include a
header and trailer record.  The header record is the first record of
the file and provides identifying information about the file. The
trailer record is the last record of the file.
For example, the record formats may be provided as follows:


Header record format:
      H|<file sequence number>|<date time>|<company name>|<File
Type>|[<File status>]


Trailer record format:
      T|<file sequence number>|<record count>
<file sequence number> := refer to section on sequential file
numbering
<date time> := mm/dd/yyyy hh:mm:ss
<company name> := originator of the files
<file type> := Merchant|Coupon|PQT
<File status> := FULL|PARTIAL


      The first character identifies the record as being either a
Header ('H') or a Trailer ('T').  All fields are delimited by the
piped symbol ("|").  The number following the sequence number
identifies the total count of records within the file including the
header and trailer records.   A sequential file number is
preferably provided to verify that all files have been received and
processed that were created and sent.  The file number will be
incremented if the file can be decrypted and is in the correct
format. If the file contains bad data, then the corrected file must
advance the sequence number.  Following are examples of messages
that may be transmitted by the Manager:

```
Merchant File - Full
   H|1|mm/dd/yyyy hh:mm:ss|Manager|Merchant|FULL
   T|1|15
Merchant File - Partial
   H|1|mm/dd/yyyy hh:mm:ss|Manager|Merchant|PARTIAL
   T|1|15
Coupon File - Full
   H|1|mm/dd/yyyy hh:mm:ss|Manager|Coupon|FULL
   T|1|15
Coupon File - Partial
   H|1|mm/dd/yyyy hh:mm:ss|Manager|Coupon|PARTIAL
   T|1|15
```

Following are examples of messages that may be transmitted by the processing agent 44, where agent name = ProcAgent:

```
Merchant File - Full
   H|1|mm/dd/yyyy hh:mm:ss|ProcAgent|Merchant|FULL
   T|1|15
Merchant File - Partial
   H|1|mm/dd/yyyy hh:mm:ss|ProcAgent|Merchant|PARTIAL
   T|1|15
Coupon File - Full
   H|1|mm/dd/yyyy hh:mm:ss|ProcAgent|Coupon|FULL
   T|1|15
Coupon File - Partial
   H|1|mm/dd/yyyy hh:mm:ss|ProcAgent |Coupon|PARTIAL
   T|1|15
PQT File
   H|1|mm/dd/yyyy hh:mm:ss|ProcAgent |PQT
   T|1|15
```

The merchant data record preferably provides the following information:

| MID | Char(16) | Merchant ID (left justified) |
|---|---|---|
| Club_id | Char(10) | Identifies the club for a |

| | | multi-club system (left justified) |
|---|---|---|
| Activity_flag | Char(1) | A=add, C=change, D=delete. Note: at this time, all records must indicate "A". |
| Merchant_name | Char(35) | Merchant name, no double or single quotes in the name. |
| Parent_MID | Char(16) | MID of the main corporation or may be grouping MID which is a set of MIDs. For example, SXMCH1 may be the grouping MID under which all the MIDs for Wards stores will be under.The field should never be empty. A parent is its own MID. (left justified) |
| Bank_ID | Char(10) | Manager will initialize this to blanks. The processing agent will fill in the Bank_ID which is to remain in all exchanged files. |
| Status | Char(2) | Current merchant status. Q=qualified, A=active, D=delete, X=error/incomplete. Manager will initialize this to blanks and the processing agent will fill in the status. |
| Signup_dt | Date(8) | Date merchant was sent to the processing agent.  Manager will initialize this to blanks and the processing agent will fill in the signup date |
| Start_dt | Date(8) | Date merchant begins program |
| End_dt | Date(8) | Date merchant ends program. |

| | | If there is no end date, then this field will be left blank. |
|---|---|---|
| Qualified_dt | Date(8) | Date processing agent first receives transactions. Manager will initialize this to blanks and the processing agent will fill in the qualified date. |
| Last_act_dt | Date(8) | Most recent date processing agent received transactions. Manager will initialize this to blanks and processing agent will fill in the last activity date. |
| Notes | Char(50) | Notes received by processor or other notes about the merchant. Manager will initialize this to blanks and processing agent will fill in the notes field. |

The coupon data record preferably provides the following information:

| Coupon_id | Char(32) | Unique coupon id |
|---|---|---|
| Card_no | Char(19) | Credit card number |
| Activity flag | Char(1) | A=add, C=change, D=delete. Note: at this time, all records must indicate "A". |
| Status | Char(1) | Current Coupon Status A=active, D=delete, S=sales, R=returns<br>• Status field is set by |

|  |  | processing agent and not by Manager<br>• The status field is initialized to blank by Manager.<br>• Processing agent will set the status field to ACTIVE when they receive the coupon.<br>• Processing agent will set the status field to SALE when there is a transaction that matches the coupon.<br>• After the coupon's end date, processing agent will set the status field to RETURN if there is a refund transaction that matches the coupon and if there was a previous sale (i.e., status field = SALE). |
|---|---|---|
| Start_dt | Date(8) | Effective begin date for coupon |
| End_dt | Date(8) | Date coupon ends or is deleted |
| Signup_dt | Date(8) | Date on which consumer was sent to processing agent. Manager will initialize this field to spaces and processing agent will fill in the date. |
| MID | Char(16) | Merchant ID for which coupon is valid |
| Reward_id | Char(32) | Reward id (will be included |

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| | | in the PQT). This field is left-justified. |
|---|---|---|

The PQT data record preferably provides the following information:

| MID | Char(16) | Merchant ID or SE |
|---|---|---|
| Amount | Numeric(10, 2) | Transaction Amount |
| Auth | Char(6) | Transaction Authorization Number (can contain alpha, usually numeric) |
| Batch_no | Char(11) | Batch number (usually alphanumeric) |
| Card_no | Char(19) | Credit card number |
| Card_type | Char(4) | Type of credit card (VISA, MC, AMEX, DISC, CB) |
| Debit_ind | Char(1) | Code indicating whether the card is debit (D=debit, null for all others) |
| Expire_dt | Char(6) | Expiration date of card (MMCCYY) |
| Entered_ind | Char(1) | Code indicating how transaction was entered: (H=hand entered, T=terminal, C=card swipe) |
| Ref_no | Char(12) | Reference number (alphanumeric) |
| Term_id | Char(13) | Terminal id (alphanumeric) |
| Tran_dt | Date(8) | Date on which transaction took place CCYYMMDD |
| Tran_time | Char(8) | Time when transaction took place HHMMSS |
| Tran_type | Char(1) | Type of transaction (S=sale, R=refund, A=auth only, F=force, D=decline, E=error, |

| | | O=other, I=inquiry, V=void, C=close) |
|---|---|---|
| Vendor_name | Char(10) | Processor name |
| Reward_id | Char(32) | Reward id number from coupon |

Regarding file exchange, files will preferably be exchanged on a daily basis using FTP. The ftp site is provided by the processing agent 44. When the Manager sends new coupons or merchants, the Manager will send full replacement files. Additionally, preferably on a daily basis, the Manager will check for new PQT files. Also, the processing agent 44 preferably provides the following information to the Manager: PQTs per merchants and PQTs per day. This information is preferably provided on a weekly basis.

Tracking Off-line Purchases via the Credit Instrument Infrastructure

In a currently preferred embodiment of the present invention, the credit instrument 34 (e.g., a credit card) is used to identify the consumer redeeming the electronic or virtual coupon, and then match the identified consumer to actual purchases of products at stores specified by corresponding coupons. This process is shown generally in Fig. 11.

The credit instrument infrastructure 14 preferably includes: the merchant processor 40 and the processing agent 44 having a database 46 for storing records of transactions made with particular types of credit instruments and a rules based engine 48 (which may alternately be provided as the rules based engine 80).

After registering with an electronic coupon interface for a particular incentive to purchase a specified product at a specified store, a consumer 18 preferably physically travels to the specified store and uses the specific credit instrument 34 to purchase the specified product. Purchase information including details of the purchase such as consumer information is provided by the store 24 to the merchant processor 40.

Credit instrument numbers of consumers registered for particular electronic coupon offers are uploaded from the registered consumer database 33 to the rules based engine 48 which determines matches between the credit instrument numbers of the registered consumers (stored in the database 33) against purchases made at the merchant's place of business. Information that is transmitted between the consumer tracking system 12 and the processing agent 44 for use in processing the transactions includes credit instrument numbers of consumers and merchants participating in the consumer tracking program.

Preferably, on a scheduled basis, such as daily basis, the rules based engine 48 determines matches between consumers and merchants based on the credit instrument numbers. The rules based engine compares consumer credit instrument numbers of consumers listed in the consumer database 33 against the credit instrument purchases made at participating merchant stores. Where there is a match, the rules based engine will store the matching information and provide this back to the system 12.

As shown in Fig. 2, in an alternative embodiment, the rules based engine 80, which determines whether each consumer is actually eligible to receive a reward, is implemented by the consumer tracking system 12 instead of the processing agent 44.

Thus, a determination has to be made as to which activated offers are applicable when processing transactions. Qualifying conditions are specified on offers. These qualifying conditions are then checked in order to determine if the offers are applicable. Qualifying conditions may be constrained to stores, time periods, products, information about transactions or any combination thereof. Provided below as Exhibit A is a description of the qualifying conditions that may be associated with offers.

Provided below as Exhibit B is documentation regarding defining coupons and offers for the present invention.

Tracking Sale and Return Transactions

The processing agents 44 also preferably process  transactions
based on the following parameters:

    1. Before a coupon's end date, the processing agent 44 will
    send both sale and return transactions that match the coupon
    to the Manager.

    2. After the coupon's end date, the processing agent 44 will
    send refund transactions that match the coupon only if a
    previous sale was detected.

    3. For coupons that belong to a group of stores (i.e., where
    the MID in the coupon is a grouping MID and not the MID of a
    store), the processing agent 44 will send sale and refund
    transactions that belong to any MID that belongs to the
    grouping MID.  In this case, if sales are made at one MID
    and the refund was given at another MID, then the Manager
    will get the refund transaction.  For coupons that are not
    part of a grouping MID, the refund transaction will only be
    returned if the MID matches the MID of the coupon.  Thus,
    the Manager will only get the refund if the consumer returns
    at the same store.

    4. All sales and refunds that match the coupon will be sent.
    Thus, the system does not stop processing at the first
    sale or the first refund that matches the coupon.


Settlement/Administration of Rewards

Referring again to Fig. 2, the present invention preferably
includes a reward engine 82 that determines the reward due the
consumer according to the terms of the offer.  The reward may be in
the form of, for example, credit 84, cash back 85, points 86, gift
certificates 88, or frequent flyer miles 90.  However, other types

of rewards may be provided as determined by the merchants.  For
example, merchandise may be provided for accumulating a certain
number of points 86 or making a specific purchase.  After
determining that a particular consumer is eligible for a reward as
disclosed herein, the consumer is preferably rewarded by, for
example, crediting the consumer's credit instrument account or other
account (e.g., bonus points or frequent flyer miles account).

In the most preferred embodiment, only one reward type is
specified for each offer.  Therefore, the reward type may be, for
example, credit 84 on the consumers' next credit card statement,
cash back 85 or points 86.  However, other reward units such as
dollars, other points, gift certificates 88 or frequent flyer miles
90 may be accumulated according to the present invention and rewards
paid on a periodic basis or as required.

Reward - Cash Back

In one embodiment of the present invention, the Manager is a
service bureau offering a turn-key solution for merchants and
consumers.  The Manager settles the rebate by giving the consumer
money-back on their next credit instrument statement or providing
the specific reward.  Manager
With respect to providing credit 84, it is provided for each
qualified transaction is provided in a report or file preferably
provides the following information: (1) credit card number to be
credited; (2) expiration date of the credit card; and (3) amount of
the credit cash back to be credited.  Other information as necessary
may be provided, however, the preferred information should be
sufficient such that a credit can be made to a consumers' credit
card by either a credit card terminal or through a direct interface
to a bank.

Reward - Points

With respect to calculating points for each qualified
transaction, a file containing information may be sent to the points
loyalty program who can manage the point for the member.  The

information provided may include: (1) I.D. of the member to receive points; (2) number of points to award; and (3) first and last name of individual.

Reward - Discount at POS (point of sale)

Instantaneous notification of the reward may also be provided on the sales receipt at the time of purchase at the brick and mortar store. This notification may include not only the credit 84 to the consumers' credit card or other discount, but may include the points 86 earned with this purchase. Instantaneous notification on the sales receipt requires the transmission of coupon information to a cooperating merchant. In order to provide instantaneous notification, the Manager will send a file of coupons to the merchant's host system, that in turn communicates with the merchant's point of sale (POS) terminals. Coupons specify a credit card number, a set of store locations, a coupon begin and end date, and optionally, a set of products. At the time of sale, and at the time the credit card is used to pay for the sale, the POS terminal can reference the coupon information, discount the purchase immediately, thereby providing an instantaneous notification and reward. In operation, the Manager will send a file of coupons to the cooperating merchant's host system, which will store the coupon and use the coupons to apply any discounts at the time of sale. When a consumer makes a purchase with his or her credit card, the POS terminal will consult the host system and apply any discounts associated with the credit card number before computing a total for the purchase and before authorizing the purchase amount. At the time the discount is applied, the sales receipt can notify the consumer of the reward.

Reward - Reserving to Pick-up Offline and Pre-purchasing to Pick-up Off-line

The system of the present invention may also provide for a consumer to activate a coupon and collect the good or service off-line. The good or service that is collected off-line could be pre-

purchased on-line, possibly at a discounted price only available to purchases on-line. Alternately, the good or service could be reserved on-line by the consumer and held for pick up off-line at a later time (i.e., parent reserves popular toy for holiday and is for example, placed on a wait list). The system provides the merchant with the ability to identify the consumer using their registered payment card associated with the coupon when the consumer picks-up the good. This type of reward requires the transmission of transaction data from the Manager to the respective participating merchant. Additionally, the Manager will accept pre-payment for the item on behalf of the merchant if the item is purchased on-line. Regarding settlement, preferably funds are transferred to the merchant on a predetermined basis, for example, nightly, for items pre-purchased by consumers. Alternately, funds may be transferred to the merchant upon receiving a transaction file from the merchant, which preferably details what pre-purchased items were picked up.

A file preferably is transmitted to the merchant specifying the consumer's credit card number(s), the amount, the item ID (such as UPC, etc) and the date of pre-purchase online. The merchant's host system will process this file and in turn communicate with the merchant's point of sale (POS) terminals. Any items the consumer has in their checkout basket, which were pre-purchased, will be totaled and then offset with a matching credit before payment. In operation, the manger will send a file of pre-purchased items to the respective, participating merchant's host system. The host·system will store a record of all pre-purchased items. When the consumer makes a purchase with his or her credit card, the POS terminal will consult the host system and credit any pre-purchased items associated with the credit card number, before computing a total for the purchase and before authorizing the purchase amount. At the time the pre-purchased item is picked up, the sale receipt can notify the consumer of the reward. When the consumer makes a purchase with his or her credit card for a good reserved on-line, the POS terminal will consult the host system, approve the purchase, and add the price of the approved reserved good to the consumers total purchases.

Reward - Products Promoted by Merchant

The system of the present invention may also provide rewards
for products that are being promoted by the merchant.  For example,
receive 10% off at Circuit City if you buy a specific radio.  The
merchant preferably provides details of  the purchase after the
credit card transaction is complete.  In the preferred embodiment,
offers will be created that specify that the reward is valid only if
a particular product is purchased.  The product is identified by a
unique identifier assigned by the merchant (e.g., SKU code, part
code, ISBN number, etc.).  The consumer will create a coupon from
the offer, go to the store, and make a credit card transaction as
usual.  When the credit card transaction is received from the
processing agent 44, the transaction will be transmitted to the
cooperating merchant to get the details of the transaction (e.g.,
the items were purchased).  The merchant preferably will identify
the transaction based on the information in the credit card
transaction and return the Manager a list of the products that were
purchased.  If the specified product appears in the list, the
consumer receives a reward for the purchase of this product.

Matching transactions will be transmitted to the cooperating
merchant on a periodic basis such as once a day using for example,
ftp file transfer, XML document transfer to exchange the data.
Other transfer protocol may be used as needed.  Alternatively, the
merchant may allow access to selected tables in the merchant's
database so that the Manager can determine the goods or services
purchased.

In operation, a consumer creates a coupon from an offer
promoting a reward when a specific product is purchased.  The
consumer then goes to the store and purchases the product with the
registered credit card.  The credit card transaction is transmitted
to the processing agent 44 and the credit card transaction is sent
to the Manager.  The Manager's system determines whether the credit
card transaction matches a coupon which requires the purchase of a
specific product.  The Manager's system creates a file of
transactions that match coupons but require information about the
specific products purchased.  The file contains details from the

credit card transaction, for example, credit card number, transaction date, transaction amount, store location (MID), and reference number which will provide information so that the sale transaction can be identified. The file is encrypted and sent to the merchant on a scheduled basis (e.g., daily) and provided on an ftp site where the file can be accessed by the merchant. The file is decrypted and used by the merchant to look up matching sales transactions. A file of matching sales transactions is created. The file will contain for each sales transaction a list of the products that were purchased. For each product, the following information is preferably provided: identifying or product code, quantity, price, and extended price. The file of matching sales transactions are encrypted and sent to the Manager on a scheduled basis (e.g., daily) and provided on an ftp site where the file can be accessed by the Manager. The Manager will receive this file and determine whether the product specified in the promotion was purchased. If so, then the consumer is determined to have purchased the item specified in the offer and is eligible for a reward.

How Returns Affect Rewards

With respect to return processing, the processing of returned items involves rescinding any rewards that have been granted in connection with the purchase of those items. The system provides processing returns as follows. Rewards are not actually credited for some predetermined time period, for example, 90 days. Processing a return transaction involves checking transactions that occurred within 90 days prior to this transaction. If a transaction had a reward associated with it, the return transaction amount is subtracted from the reward base. A new reward for that transaction is then calculated. If the return transaction amount exceeds the reward base, the difference is carried over to the next transaction that has a reward associated with it.

With respect to goods returned after being purchased at a brick and mortar store using a virtual coupon, the preferred embodiment of the present invention provides a specified period for return as defined by each merchant. Consumers are given a rebate on

each sales transaction and a return period is likewise specified by
the particular merchant. Preferably, the return period is thirty
days, however, merchants desiring longer return periods, such as for
example, ninety days, may likewise be accommodated. Preferably, the
sales transaction will not receive a rebate until after the return
period. That is, the sales transaction will be held until the
return period is ended. Preferably, if any return occurs within the
return period following the transaction, the return is used to
offset the rebate. A determination is not made to match the return
amount with the sales transaction, but preferably all returns within
the return period are applied to the prior sales transaction. If
multiple transactions occur and the amount of a return exceeds the
amount of a previous sales transaction, a negative rebate amount
might result. In such an instance, the negative rebate balance is
preferably carried over to the next rebate period.

An example of the return process is as follows:

1.   The Manager provides the processing agent 44 with a 90-
     day extended search parameter for returns.

2.   A sales transaction has met all coupon criteria and the
     processing agent 44 creates a PQT transaction and sends it
     to the Manager in the daily PQT file.

3.   A return transaction arrives 20 days after the coupon end
     date and matches the same criteria as the sale, except the
     amount is approximately 1.5 times that of the sale.

4.   The processing agent 44 will provide a PQT and send the
     return transaction to Manager in the daily PQT file because
     the refund transaction matches all set criteria. The
     transaction amount is not part of the matching process.

5.   Another refund transaction then arrives 95 days after the
     coupon end date and matches the same criteria as the sale,
     except the amount is only half that of the sale.

6.    The processing agent 44 will not provide a PQT for the
      transaction because it is no longer within the extended
      search parameter.


## System Operation

In operation, the present invention provides a system which
may include various different entities functioning together,
including: consumer, merchant, affiliate, merchant processor,
processing agent and Manager.  As shown in Fig. 12, creation and
distribution of offers is provided at 300, consumer experience is
provided at 310 and settlement/administration is provided at 320.
Tracking is provided based on information generated during creation
and distribution 300, information provided and stored during
consumer experience at 310 and processing the occurs during
settlement/administration at 320.

With specific reference to Fig. 12, a consumer surfing the Web
sees an advertisement banner on a web-site such as productopia.com
at 200 as shown in Fig. 3.  The banner may promote an offer such as
a $100 shopping spree. If the consumer is interested in the
promotion or offer, the consumer clicks on the banner and is
directed to the Web-site of the Manager of the system.  The system
at the Manager's web-site determines if the consumer has a cookie
already issued by the Manager at 202. If the consumer has previously
registered, then the consumer is a returning user and user
identifier information regarding the consumer is extracted from the
cookie.  At 204 the user identifier information is used to lookup
the consumer's profile information from the registered consumer
database 33 and the consumer profile is retrieved.  This allows the
system to preferably greet the user with a personal greeting such as
"Hi Judy", as shown in Fig. 5.

However, if the consumer does not have a cookie issued by the
Manager, then the consumer is prompted to log in at 203 as shown in
Fig. 4.  If the consumer the logs in (i.e., consumer previously
registered), the consumer's profile is retrieved at 204.  If the -
consumer is not registered with the Manager and does no log in as

having previously registered, the consumer is preferably prompted to register with the Manager at 205. If the consumer does not choose to register, the consumer may not activate a virtual coupon and the consumers is exited back to the site from where in advertisement banner was clicked. If the consumer decides to register (i.e., enters at least a payment card number, for example a credit card number, and optionally enters personal information, such as name and address), as shown in Fig. 6, a consumer profile is created at 207, a cookie issued to the consumer at 209 and the offer displayed at 206.

The offer associated with the advertisement banner is displayed at 206 with the URL associated with the advertisement banner containing an ad promotion id which is associated with an offer. The consumer views the offer as shown in Fig. 8 and may decide to activate an offer at 208 as shown in Fig. 9. Activated offers may be viewed as shown in Fig. 7.

If the consumer activates the offer, then a virtual coupon is created at 210 and stored in the coupon database 25. Preferably, the consumer may make a purchase immediately after creating the coupon.

Preferably at a predetermined time periods, for example, once a day, all active coupons (i.e., coupons that have not expired) and all coupons that have been used but whose return period have not expired are identified at 212. Active coupons will match a new purchase (or sale) transaction. A coupon that has been used but whose return period has not expired will match a return transaction that is made within the store's return period. The system may provide e-mail notification to a consumer of specific expiring coupons at 214. For example, the system may provide email notification to consumer's with coupons set to expire in seven days.

The selected coupons are transmitted at 216 to the processing agent 44. The selected coupons are stored in the coupon database 29 at the processing agent's site at 218.

A consumer desiring to make a purchase at a brick and mortar store, travels to the merchant store 24 offering the promotion and makes a purchase with the registered credit card at 220.

Information regarding the registered credit card and the associated
consumer are maintained in the consumer database 33. Information
regarding the credit card transaction is transmitted through the
credit card processor network at 222, where it is processed by the
merchant processor 40, to the processing agent 44. The processing
agent will receive credit card transactions for participating
merchants at predetermined time periods, for example, once a day.
Preferably, the merchant's bank (or merchant processor 40) transfers
a copy of the merchant's transaction records to the Manager's credit
card processing agent 44 on a daily basis and the processing agent
44 for the manger (i.e., a Visa subsidiary), processes the credit
card data received from the issuer. The processing agent 44
preferably stores the credit card numbers of enrolled consumers and
the credit card numbers of transactions from the stores of member
merchants. It compiles a list of matches between the credit card
numbers of enrolled consumers and the credit card numbers used to
charge actual sales, which it forwards to the manger preferably on a
daily basis.

Thus, when the information regarding the credit card
transaction is received by the processing agent 44, the information
is checked against current coupons at 224. If the sale transaction
matches a coupon, then it is considered a potentially qualified
transaction. If a return transaction matches a coupon that has been
used, then it is also considered a potentially qualified
transaction.

Specifically, all potentially qualified transactions are
transmitted to the Manager at predetermined time periods, for
example, once a day at 226. If the credit card transaction is a
sale, then it must be further qualified against the other terms of
the offer at 228. For example, the transaction amount may be
checked to determine if it meets the minimum purchase amount or is
within the promotion time period. If the transaction is fully
qualified, then a reward can be determined and an email of the
potential rebate is preferably sent to the consumer at 230. The
potential reward, for example, cash back, is calculated at 232.

If the transaction is a return, then a negative reward is calculated, and the pending reward is reduced by the appropriate amount at 234.

Thus, the reward total at 236 reflects the rewards for sales transactions reduced by the amount of any returns. The reward is preferably not paid until the return period ends as determined at 238. The return period is the time period in which a return may be made. This is typically thirty days for most stores. Therefore, for example, if the sale were made on April 1 and the return period is thirty days, then the cash back will not be paid until May 1. This prevents the situation where a sale is made and cash back is paid only to have the consumer return the purchase but keep the cash back. So, if the return period ends, then the reward is paid at 240. An email of the actual rebate is preferably sent to the consumer at 242. The reward is then paid to the consumer. The reward can be cash back made on the consumer's credit card, points, gift certificates, miles, or valuable merchandise. Alternately, the reward may be provided instantaneously and indicated on the sales receipt given to the consumer.

Enrolled or registered consumers may examine their own account activity and determine how much money they have saved with virtual coupons. They can also learn about promotions currently available in a given area. New promotions, as well as notice of upcoming expiration of promotions associated with a consumer's registered credit card number, are preferably provided electronically (e.g., email).

An affiliate is the Web site that displays merchant promotions. The Web site from which a virtual coupon is clipped is part of the information that is tracked. When a merchant pays the manger for a sale resulting from its promotion, the Manager pays the affiliate a percentage of this amount.

A merchant preferably becomes a member of the system and arranges for the Manager of the system to promote an offer. The merchant may pay the manger only for sales that result from promotions that the Manager has issued. Alternately, the merchant may pay the Manager for other services or information, for example, information regarding purchaser behavior or fees determined by the

number of consumers visiting the web-site and activating coupons.
For example, an electronics retailer typically uses traditional
methods such as catalogs and direct mail to target consumers.
However, these merchants may want to use the Internet to distribute
the offers and allow the consumer to respond to the offer by
activating the offer on-line, and thereafter purchasing off-line.
The merchant may then pay for information relating to the tracking
and measurement of the effectiveness of their offers based on, for
example, information relating to the consumers that respond to the
offer, the amount the purchase, customer profiles and the type of
good purchased.

A sale is considered to have resulted from a promotion if
there is a match between the credit card number of an enrolled
consumer who has clipped a virtual coupon and the credit card number
on a sale by that merchant within the valid period of the coupon.  A
promotion is preferably active for a specified period, for example
thirty days after the consumer has "clipped" it.  The present
invention provides for tracking a transaction from the point at
which a consumer expresses interest in a promotion to the completion
of an actual sale and information associated therewith may be
provided to the merchants as a service, or for a fee.

Therefore, in operation, the consumer tracking system of the
present invention performs the following: enrolls consumers and
provides them with information about their accounts; enlists
merchants and provides them with reports that measure the
effectiveness of their promotions; arranges with affiliates to
publish promotions (the virtual coupons) on behalf of member
merchants and provides them with reports about the effectiveness of
the promotions; maintains databases of consumer data, merchant data,
coupon data, and transaction data; tracks and validates the
potentially qualified transactions reported by the processing agent;
compares the credit card numbers of potentially qualified
transactions against the credit card numbers in its database of
valid clipped coupons (virtual coupons that have not expired);
validates the actual qualified transactions and directly credits the
consumers' credit card accounts; notifies consumers of rebates; and

bills merchants for their actual qualified transactions and pays
affiliates their percentage.

## System Architecture

With respect to architecture for implementing the consumer
tracking system of the present invention, Fig. 10 shows the sub-
systems that preferably comprise the Web-based  consumer tracking
system 12 constructed according to the principles of the present
invention.  The system is preferably comprised of the following
subsystems: (1) front-end subsystems 92; (2) back-end subsystems 94;
(3) gateways 96; and (4)  reward subsystems 98.

The preferred system uses open standards to avoid proprietary
restrictions and to maximize the ability to utilize technologies.
Therefore, a neutral platform with respect to Win32 and Unix may be
provided.  The following open standards may, for example, be used:
HTML, HTTP, Generic Web-site server, Generic SQL, JavaScript and
ODBC, with the following implementations of the open standards being
used: HTML 4.0, HTTP 1.1, Netscape Enterprise Server 3.6, Microsoft
SQL Server 7.0.  ColdFusion cross-platform tools may also be used.

Referring specifically to the subsystems, the front-end
subsystem 92 provides: merchant tools, consumer tools, affiliate
tools and consumer service tools.  These tools use a Web-site
interface which eliminates the need to distribute proprietary
clients to any of the user bases.  The front-end tools are
preferably implemented as ColdFusion scripts accessed from any
Netscape© or Microsoft© browser over the Internet as Web pages served
up by a Web server.  The browser interface also allows a system
constructed according to the present invention to be used by users
on any hardware platform on which Internet Explorer and the
Netscape© browsers run.  Appropriate security such as SSL and
passwords are preferably provided to protect confidential
information that is being entered or displayed.  Additionally,
credit card numbers are preferably encrypted in the database.

Regarding the specific tools, the merchant tools will allow
merchants to enroll with the system of the present invention.  Once
enrolled, the merchant will be able to perform various functions,
including: creating coupons, viewing coupons, viewing the status of
redeemed offers, and viewing reports.  The consumer tools will allow

consumers to enroll with system and once enrolled, the consumer will be able to view and "clip" coupons. The affiliate tools will allow affiliates to enroll and view the redemption status of offers. The consumer service tools will allow consumer service to view and edit merchant and consumer records.

The front-end subsystem 92 is preferably provided with a front-end database 100 which is essentially a store-and-forward database. This database preferably contains information about new and updated enrollments and new and updated coupons. On a scheduled basis, the database 100 will transfer new and updated information to a back-end database 102 in the back-end subsystem 94 and also will receive updated information from the back-end database 102. Therefore, the front-end subsystem 92 can perform operations independent of the back-end database 102 for long periods of time. Thus, if the back-end database 102 is unavailable, the front-end tools will be unaffected. Essentially, the front-end subsystems 92 provide the Web-based interfaces to consumers, affiliates, and connected merchants and the back-end subsystems 94 maintain the authoritative data on consumers, merchants, affiliates, coupons, and transactions.

The back-end subsystems 94 preferably comprise applications that manage the back-end database 102, provide tools for the Manager operations, and provide tools for Manager finance and administration. The back-end subsystem 94 is preferably provided in a combination of ColdFusion scripts, stored procedures, and Java servlets. Each technology may be used as is needed for the particular application and Manager. For example, stored procedures will be used in the case where it is necessary to enforce database integrity. For database applications that need to be ported to other platforms such as Unix, Java and JDBC will be used so that the porting effort is none to minimal. For simple applications that view the data, ColdFusion will be used.

The back-end database 102 provides the central source of information. It contains information on all merchants, all consumers, all affiliates, all coupons, all PQTs (potentially qualified transactions), and all AQTs (actual qualified transactions). Credit card numbers are preferably stored in

encrypted form in both the back-end database 102 and front-end
database 100.

In the back-end subsystem 94, the database applications
include the following: (1) coupon management, including monitoring
expiry of coupons and distribution of coupons to affiliates; and (2)
matching of PQTs against "clipped" coupons to create AQTs.
Operations applications may be provided to assist in processing
PQTs, processing AQTs, enforcing audit trails, and transmitting data
from the front-end subsystem 92 to the back-end database 102.

PQTs represent potential credit back to consumers. Therefore,
an operator preferably is required to review PQTs before the PQTs
are added to the back-end database 102. The operator is required to
review the PQTs for reasonableness before the PQTs can be added.
Review of PQTs may be assisted by fraud detection tools. These
tools will search for fraudulent patterns such as unusually large
transaction amounts or unusually high occurrences of transactions
from the same credit card number. After the PQTs have been
reviewed, an operator will "press" a button to add the PQTs to the
database. The name of the operator who allowed the PQTs to be added
to the database is preferably recorded for audit trail purposes. A
log of PQTs added to the database is also preferably recorded.

AQTs represent actual credit back to consumers. As with PQTs,
the invention preferably will require review of AQTs before the
credit is submitted to the credit card processor. Review of AQTs
may be assisted by fraud detection tools. As with the PQTs, these
tools will search for fraudulent patterns. Additionally, and as
with AQTs, an operator will preferably be required to "press" a
button to release AQTs to the credit card processor. The name of
the operator who has released the AQTs preferably will be recorded
for audit trail purposes. A log of the AQTs released to the credit
card processor is also preferably recorded. The process for
determining whether a transaction is a PQT and a ACT is shown
generally in Fig. 11.

The preferred architecture also provides a console application
that will provide task management for operations. The console will
list all the tasks that can be completed, and will also schedule
tasks to be executed at specific times. Some of the tasks that may

appear on this list include review of PQTs, review of cash back, and
performing data exchange for each specified gateway.  The finance
and administration applications will preferably provide billing
information about the number of transactions delivered to and
received from interfaces as well as other reports.

The back-end subsystem 94 is preferably on a sub-net separate
from the front-end subsystem 92.  Therefore, access to the back-end
subsystem 94 will be protected.

The databases preferably are provided with the following
parameters and information:

| | |
|---|---|
| **Tbl_User** | **Contains information about a consumer** |
| User_id | key |
| Status_id | Specifies status |
| Club_id | Identifies club that user belongs to. |
| External_id | id to external system |
| LastName | |
| FirstName | |
| MiddleInitial | |
| Email | |
| Title | Title of user: Miss, Mr., Mrs., Ms., Dr. |
| Affiliate_id | affiliate who registered this user |
| signup_datetime | date time that user signed up |
| | |
| **Tbl_User_CreditCard** | **Contains credit card information for user** |
| cc_id | key |
| user_id | foreign key to Tbl_User. Links credit card to the user |
| Status_id | Specifies status |
| Encrypted_card_number | Encrypted credit card number |
| Payment_id | Indicates type of credit card: |
| Name | name on the credit card |
| | |
| **Tbl_Coupon** | **Contains information about the coupon.** |

| Coupon_id | key |
|---|---|
| User_id | foreign key to Tbl_User. User who created the coupon |
| Cc_id | foreign key to Tbl_User_CreditCard. Credit card that coupon is created for. |
| Offer_id | foreign key to Tbl_Offer. Specifies the offer that coupon is created for. |
| Status_id | Specifies status (e.g., active, inactive, etc.) |
| BeginDate | Begin date of coupon |
| EndDate | End date of coupon |
| Affiliate_id | Affiliate through whom coupon was activated |

| **Tbl_Offer** | **Contains information about the offer** |
|---|---|
| Offer_id | key |
| Store_id | foreign key to Tbl_Store. Specifies store(s) that offer is valid at. |
| Product_id | foreign key to Tbl_Product. Specifies product that offer is valid for. |
| Status_id | Specifies status (e.g., active, inactive, etc.) |
| Offer_conditions | specifies conditions of the offer |
| Reward_rules | specifies reward rules for the offer |

| **Tbl_Transaction** | **Contains information about the transaction** |
|---|---|
| Transaction_id key | |
| Status_id | Specifies status (e.g., active, inactive, etc.) |
| Coupon_id | foreign key to Tbl_Coupon. Coupon associated with transaction. |
| Credit_card_number | credit card number on transaction |
| MID | merchant id (MID). Store location purchase made at. |

| Amount | transaction amount |
|---|---|
| Tran_datetime | transaction date and time. |

| **Tbl_Merchant** | **Contains information about the merchant** |
|---|---|
| Merchant_id | key |
| Status_id | specifies status (e.g., active, inactive, etc.) |
| CompanyName | |
| Address | |

| **Tbl_Store** | **Contains information about individual merchant store** |
|---|---|
| Store_id | key |
| Merchant_id | foreign key to Tbl_Merchant. Merchant that store is associated with. |
| Status_id | Specifies status (e.g., active, inactive, etc.) |
| Address | |
| MID | merchant id assigned to store by merchant's processor |

With respect to the gateways 96, these provide an interface to a data feed that sends and receives data from the databases. Preferably, a GRS (Golden Retriever Systems) Gateway 104, a MyPoints Gateway 106, an Order Trust Gateway 105 and a UAccess Gateway 107 are provided. However, additional gateways may be provided as needed or desired. There is preferably a gateway for each interface. Each gateway preferably performs the following functions: encrypting files before sending, decrypting files after receiving, transferring files (using ftp as the initial file transfer mechanism), maintaining logs of files sent and received and providing data in the format required by the interface.

Gateways provide the interface between the Manager and an affiliate or processing agent 44. The gateway preferably provides the following functions: receive data and store it in the Manager's database, extract data from the Manager's database, format it and

create a file for the affiliate or processing agent 44, maintain a
log of the files transmitted and received, and encrypt and decrypt
files as appropriate.  A gateway provides a collection of functions
that perform the required tasks.

With respect to the  reward subsystems 98, these subsystems
process the AQTs and give the consumer credit back.  As disclosed
herein, AQTs are transactions that match a registered consumer's
credit card, were made with a registered merchant, and match a
virtual coupon "clipped" by the registered consumer.

Rewards may be in the form of a credit to the consumer's
credit card account.  However, points reward system may be provided.
Other incentives may also be provided as desired by the particular
merchants.

Regarding security in the system, it may include the
following: protect sensitive enrollment data (front-end); encrypt
data using SSL (protect access to merchant, consumer, and affiliate
data with user ids and passwords); encrypt credit card data within
system (credit card numbers are encrypted inside the databases);
files transferred into and out of the system are encrypted using a
1024 or 2048 bit key; encryption uses public-private key pairs;
public key is given to a party who needs to encrypt; and private key
is protected by the party who needs to decrypt.  Regarding physical
security, the following may be provided: servers with sensitive data
are located in a card cage with restricted access; use of servers
will require logging in with a user id and password; servers with
sensitive data are located on their own sub-net; servers are behind
a firewall and are not discoverable, visible, or accessible from the
Internet; and the firewall restricts access to the Manager's site.
Regarding operational security, the following may be provided: audit
trail of all transactions received (source of transaction,
operations staff who added the transactions to the database, date
and time transactions received); operators review transactions
(PQTs) before they are added to the database; and operators review
transactions (AQTs) before they are released to the credit card
processor or points program.  Fraud detection tools may include:
flagging large dollar amounts for review; flagging excessive

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instances of a credit card number for review; and denial of service attacks.

Tracking consumer transactions using fragments of credit instrument account numbers may be provided as an added measure of security and anonymity. In one embodiment, the system of the present invention uses less than a full credit instrument number (e.g., from 4 to 8 digits) to track consumers.

The preferred architecture is based on well-defined interfaces. However, in areas where there are no open standards, APIs will be defined as appreciated by those of ordinary skill in the art. APIs can provide an abstraction layer to allow for changing underlying infrastructure without changing the components that use the APIs. APIs to standard core services may be provided so that gateways to alien services can be easily developed.

Therefore, the preferred architecture minimizes complexity, so that points of failure are likewise minimized. This is provided by the separate subsystems. For example, the front-end subsystems 92 and back-end subsystems 94 are provided independent of one another. The front-end database 100 does not update the back-end database 102 in real-time, which would result in highly complex and difficult to maintain systems. Likewise, the credit back subsystems 96 and the gateway subsystems 98 are provided to treat the back-end database 102 as a datastore, and extract the data from the back-end database 102. The back-end database 102 is not thereby limited to a specific number of applications that will extract data from it. Thus, additional subsystems may be provided.

The invention also provides for ease in adding another Web-site server using a local director that will intelligently load balance Web-site traffic across multiple Web-site servers. The applications are preferably designed to be stateless to make it easier to route requests to any Web-site server. The invention also preferably utilizes database technologies that are scalable. For example, the Microsoft SQL Server is a scalable database that can handle terabytes of data, support distributed query mechanisms, and run on single processor computers to terabyte symmetric multiprocessor clusters.

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Thus, the preferred architecture implementing the consumer tracking system of the present invention is not limited to the specific component parts disclosed herein. The method and apparatus of the present invention provides an easy and efficient system for providing shopping incentives. However, it should be understood by one skilled in the art that the method may be modified as needed and the apparatus implementing the method may be configured in alternate ways. Depending upon the specific application, the database information required may be modified. Further, parts may be added or parts modified or replaced as needed by the Manager. For example, the following may be added: additional front-end tools; additional front-end subsystems; additional gateways; and additional credit back interfaces.

Although the present invention has been described in detail only in the context of Internet applications, the consumer tracking system disclosed herein may be configured and implemented in other non-Internet based applications where a consumer tracking system is needed.

Additionally, the various block representations as described herein may represent both software and hardware implementations of the invention.

Thus, the present invention provides a method and apparatus that not only tracks a transaction from the point of inception on-line, to activation of the virtual coupon and purchase of the goods or services, but provides information regarding how a consumer responds to promotions, such as how many times a consumer views an advertisement or which pages are most commonly viewed.

There are various changes and modifications which may be made to the particular embodiments of the invention described herein, as recognized by those skilled in the art. However, such changes and modifications of the invention may be constructed without departing from the scope of the invention. Thus, the rights in this invention should be limited only by the scope of the claims appended hereto, and their equivalents.

## EXHIBIT A

**Qualifying Conditions**

Following are examples of some of the types of qualifying conditions that may be placed on offers:

1. Offers may be constrained to an arbitrary set of stores. Store sets can be defined in many ways.

   a. By explicitly listing the stores, e.g., MID 55 and MID 76.

   b. By a Boolean expression on store attributes. For example:

      i. Retailer id = Wards

      ii. Retailer id = Wards & Store format = New

      iii. Mall id = Valley Fair

      iv. Is Manager Merchant

   c. By combining other store sets, e.g., Small Wards stores & Medium Wards stores.

2. Offers can be constrained for an arbitrary time period. The time period can be defined in many ways.

   a. By specifying begin and end dates for qualifying transaction, e.g., March 1 through March 15.

   b. By specifying begin and end dates for offer activation,     e.g., March 1 through March 15.

   c. By specifying number of days for qualifying transaction relative to offer activation, e.g., within 7 days of offer activation

   d. By specifying days of the week, e.g., qualifying transactions only on Wednesdays.

   Note that some of these conditions can be combined. For example, offer has to be activated in the period March 1- March 15 and qualifying transaction must be within 7 days of offer activation.

3. Offers may be constrained to an arbitrary set of products. Product sets can be defined in many ways.

    a. By a set membership expression

        i. Any product sold in offer store set.

        ii. Any product in specified set. The set can be defined explicitly or implicitly.
           Explicit: SKU 98457 and SKU 32845
           Implicit: All baby products (SX will need to have category information)

    b. By a Boolean expression on product attributes.

        i. Any product that costs more than $25

    c. By a Boolean expression on attributes of products in a transaction.

        i. Price of products in transaction totals more than $50.

        ii. Number of products in transaction is greater than 10.

        iii. Quantity of a particular product is greater than 5.

4. Offers may be constrained by a boolean expression over an arbitrary set of transactions. Transaction sets and the expression can be defined in many ways.

    a. Transactions in period October 1 - December 31 total more than $1500.

    b. Transactions in last 3 months total more than $1500 (note that evaluation of this expression depends on the date of the qualifying transaction).

5. Offers may be constrained by shopper characteristics.

    a. Shopper must belong to Club Exclusive.

    b. Shopper must use Bank of America Visa card.

6. Offers can be constrained in other ways.

    a. Only applicable to first three purchases of any
       item.

    b. Only applicable to fourth purchase

Following are examples of offers that combine various
conditions.  These may be provided as offer form templates
to merchants.

1. Reward merchant's shoppers for all purchases in the week
   of Feb 14- Feb 20.

2. Reward shoppers if their purchases in merchant shops
   during the week of Feb 14 - Feb 20 exceeds $1000.

3. Reward shoppers in a club.for the third purchase of an
   item XYZ during the week of Feb 14 - Feb 20.

Offers can also be defined to refer to other offers with
additional conditions.  For example:

A manufacturer may offer a reward to shoppers who buy a
particular TV model during the week of Feb 14 - Feb 20.  In
addition, a retailer may piggyback on that offer and reward
the shoppers an additional discount if the purchase happens
on Monday, Tuesday or Wednesday.

# Coupon Life Cycle

This document describes coupons with different attributes work. Four simple scenarios will be examined:

- One Use within coupon period - example, use one day within next 30 days
- Unlimited uses within coupon period - example, use as many times as you'd like within the next 30 days
- Fixed uses within coupon period - example, use fixed number of days within the next 30 days
- Unlimited uses within unlimited period - example, use as many times as you'd like as long as you'd like

Note that uses are described as unlimited uses in a single day. A coupon that can be used once allows the shopper to make as many transactions as he'd like in a single day.

## One Use Within Coupon Period

- Shopper clicks on offer and creates a one time use coupon.
    - Status of coupon is set to active
    - Expiration date set to today's date + coupon period
    - Maximum use count of coupon set to 1
- Coupon is sent to the processing agent
    - End date set to expiration date of the coupon
- Shopper makes a credit card transaction within the coupon period.
- Processing agent matches the credit card transaction to the coupon. Processing agent sets coupon status to SALE.
- Transaction is saved in ShopExpert database
- On coupon, use count is incremented. Use count is now greater than the Maximum use count, so status of coupon is now REDEEMED. Expiration date of coupon is set to the transaction date.
- Coupon with end date set to transaction date is sent to the Processing agent. This prevents the Processing agent from sending us additional transactions which would cost ShopExpert additional fees.
- There is a two day lag with the Processing agent. If the shopper makes an additional transaction before the updated coupon file is received by the Processing agent, a transaction may be matched and sent to ShopExpert.com. ShopTrack will reject these transactions.
- If the Shopper makes a return transaction within the return period, then these return transactions will be saved in ShopTrack.
- When the transaction date + return period is greater than or equal to today's date, then cash back will be calculated.
- The statuses of the transactions used for cash back will be set to "Rebated".

- The status of the coupon will be set to "Rebated".
- Finally, the coupon will be deleted from the coupon file that is sent to the Processing Agent.

# Unlimited Uses Within Coupon Period

- Shopper clicks on offer and creates a coupon that can be used an unlimited number of times.
  - Status of coupon is set to active
  - Expiration date set to today's date + coupon period
  - Maximum use count of coupon set to NULL (i.e., unlimited)
- Coupon is sent to the processing agent
  - End date set to expiration date of the coupon
- Shopper makes a credit card transaction within the coupon period.
- Processing agent matches the credit card transaction to the coupon. Processing agent sets coupon status to SALE.
- Transaction is saved in ShopExpert database
- On coupon, use count is incremented. Use count is checked against the maximum count which is NULL so the use count has not exceeded the maximum count. The status of coupon is still ACTIVE.
- Coupon with the same end date set is sent to the Processing agent. This allows the Processing agent to continue to send us matching transactions.
- If the Shopper makes a return transaction within the return period, then these return transactions will be saved in ShopTrack. The return transaction period is the expiration date of the coupon + return period. If the expiration date of the coupon is 9/30/99, then the return period is through 10/30/99.
- For those transactions whose transaction date + return period is greater than or equal to today's date are used to calculate cash back. All return transactions made within the transaction date + return period are used.
- The statuses of the transactions used for cash back will be set to "Rebated".
- The status of the coupon will be set to "Rebated".
- Finally, the coupon will be deleted from the coupon file that is sent to the Processing Agent.

# Fixed Uses Within Coupon Period

• Shopper clicks on offer and creates a coupon that can be used a fixed number of times within coupon period.

- Status of coupon is set to active
- Expiration date set to today's date + coupon period
- Maximum use count of coupon set to the number of uses.

• Coupon is sent to the processing agent

• End date set to expiration date of the coupon

• Shopper makes a credit card transaction within the coupon period.
• Processing agent matches the credit card transaction to the coupon. Processing agent sets coupon status to SALE.
• Transaction is saved in ShopExpert database
• On coupon, use count is incremented. Use count is checked against the maximum count. If the use count has not exceeded the maximum use count, then status of coupon is still ACTIVE. If the use count has reached or exceeded the maximum use count, then the status of the coupon is REDEEMED and the expiration date of the coupon is set to the transaction date.
• If the coupon is ACTIVE, then the coupon is sent to the Processing agent with the original expiration date. If the coupon is REDEEMED, then the coupon is sent to the Processing agent with an expiration date = transaction date to prevent the Processing Agent from sending us additional transactions.
• If the Shopper makes a return transaction within the return period, then these return transactions will be saved in ShopTrack. The return transaction period is the expiration date of the coupon + return period. If the expiration date of the coupon is 9/30/99, then the return period is through 10/30/99.
• For those transactions whose transaction date + return period is greater than or equal to today's date are used to calculate cash back. All return transactions made within the transaction date + return period are used.
• The statuses of the transactions used for cash back will be set to "Rebated".
• The status of the coupon will be set to "Rebated".
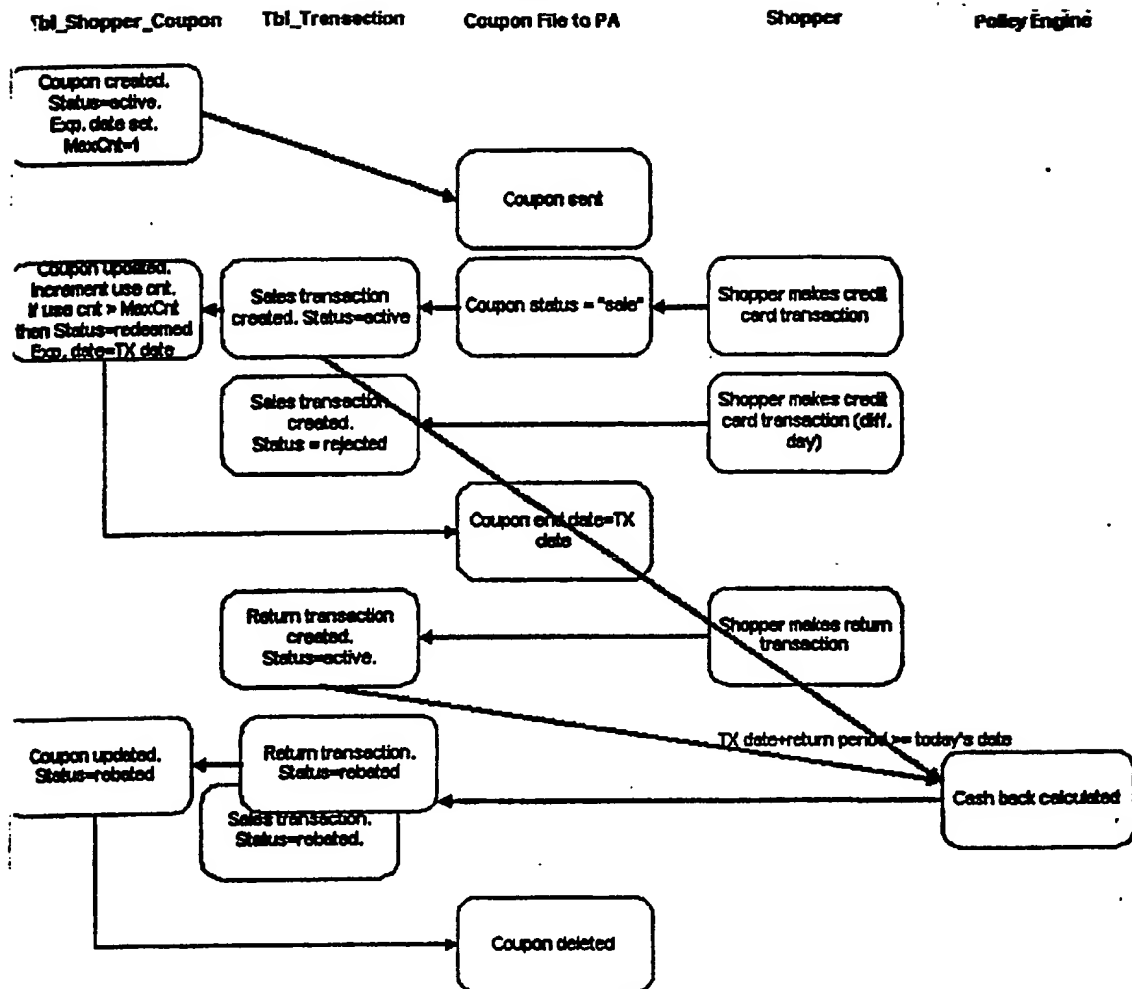• Finally, the coupon will be deleted from the coupon file that is sent to the Processing Agent.

# Unlimited Uses Within Unlimited Coupon Period (always on)

• Shopper clicks on offer and creates a coupon that can be used an unlimited number of times.
    • Status of coupon is set to active
    • Expiration date set to NULL.
    • Maximum use count of coupon set to NULL (i.e., unlimited)
• Coupon is sent to the processing agent
    • End date set to today's date + 1 year. Each day that we send the coupon to the Processing agent, the end date of the coupon will advance one day.
• Shopper makes a credit card transaction within the coupon period.
• Processing agent matches the credit card transaction to the coupon. Processing agent sets coupon status to SALE.
• Transaction is saved in ShopExpert database
• On coupon, use count is incremented. Use count is checked against the maximum count which is NULL so the use count has not exceeded the maximum count. The status of coupon is still ACTIVE.
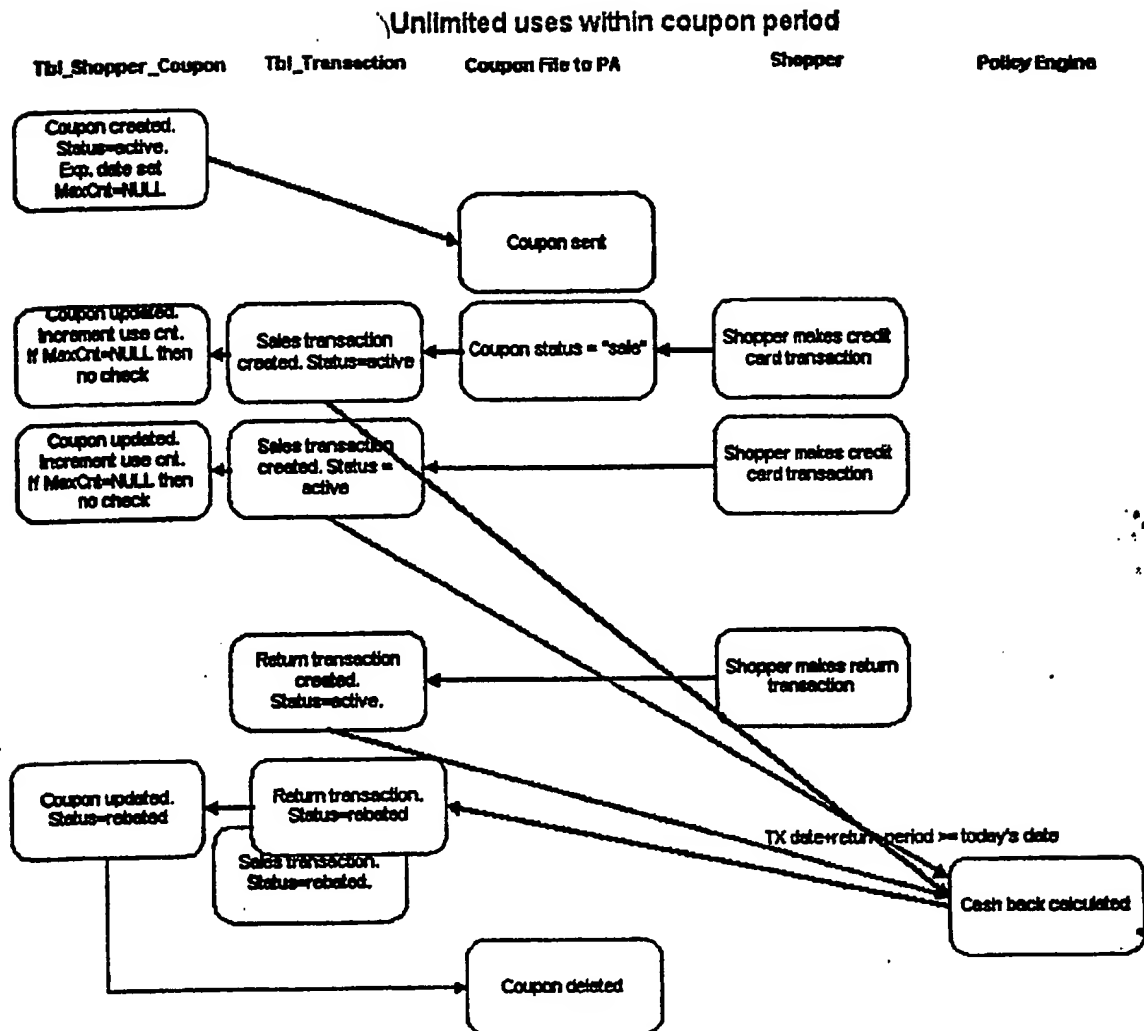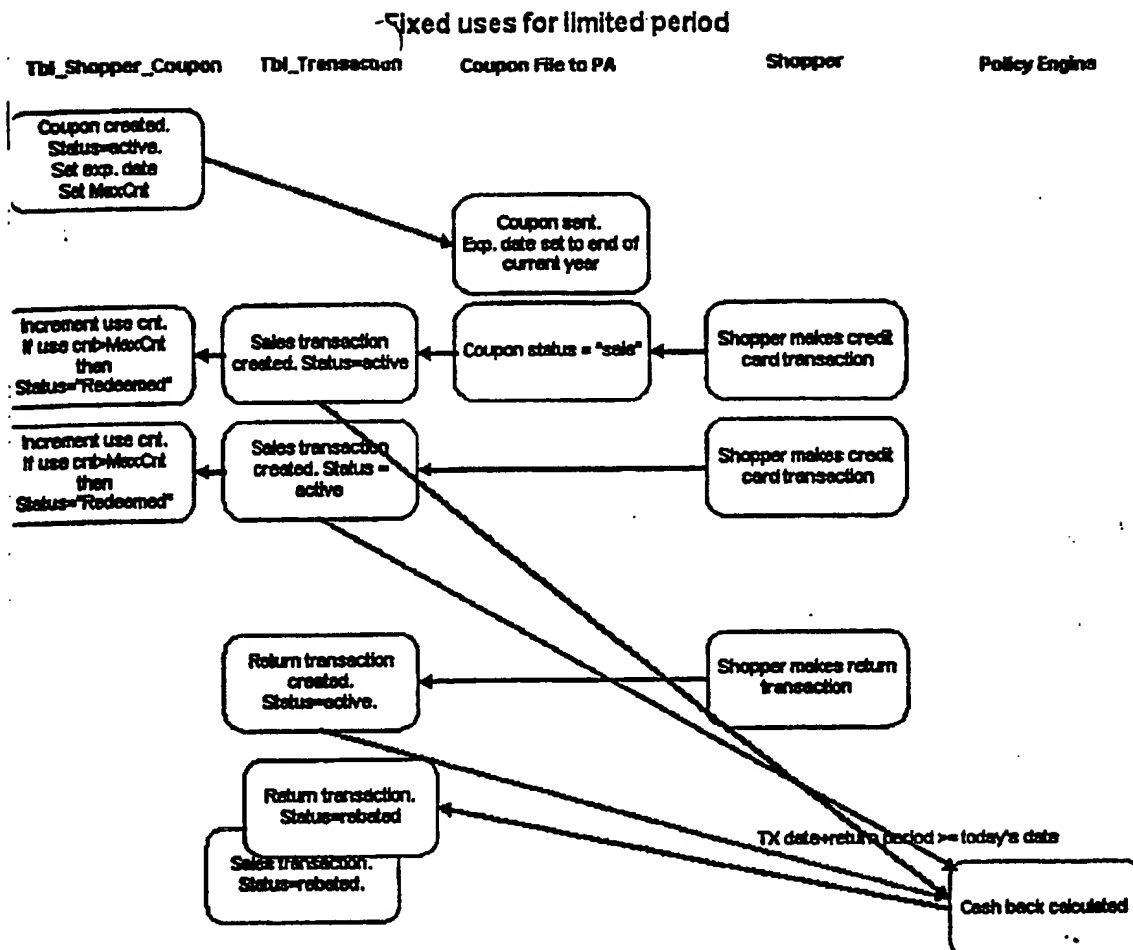
- Coupon with the new end date (today's date + 1 year) is sent to the Processing agent. This allows the Processing agent to continue to send us matching transactions.
- If the Shopper makes a return transaction within the return period, then these return transactions will be saved in ShopTrack. There is no return transaction period since the coupon never expires. All returns are accepted.
- Transactions are examined and those transactions where the transaction date + return period is greater than or equal to today's date are used to calculate cash back. Any returns made within the transaction date + return period are used.
- The statuses of the transactions used for cash back will be set to "Rebated".
- The status of the coupon is left as ACTIVE.

**Last updated October 12, 1999**

## One use within coupon period

| Tbl_Shopper_Coupon | Tbl_Transaction | Coupon File to PA | Shopper | Policy Engine |
|---|---|---|---|---|

## Unlimited uses within coupon period

| Tbl_Shopper_Coupon | Tbl_Transaction | Coupon File to PA | Shopper | Policy Engine |

### Fixed uses for limited period

| Tbl_Shopper_Coupon | Tbl_Transaction | Coupon File to PA | Shopper | Policy Engine |
|---|---|---|---|---|

Coupon created.
Status=active.
Set exp. date
Set MaxCnt

Coupon sent.
Exp. date set to end of
current year

Increment use cnt.
If use cnt>MaxCnt
then
Status="Redeemed"

Sales transaction
created. Status=active

Coupon status = "sale"

Shopper makes credit
card transaction

Increment use cnt.
If use cnt>MaxCnt
then
Status="Redeemed"

Sales transaction
created. Status =
active

Shopper makes credit
card transaction

Return transaction
created.
Status=active.

Shopper makes return
transaction

Return transaction.
Status=rebated

Sales transaction.
Status=rebated.

TX date+return period >= today's date

Cash back calculated

## Unlimited uses for unlimited period (always on)

| Tbl_Shopper_Coupon | Tbl_Transaction | Coupon File to PA | Shopper | Policy Engine |
|---|---|---|---|---|

Coupon created.
Status=active.
Exp. date = NULL
(never expires)
Set MaxCnt=NULL

Coupon sent.
Exp. date set to 1 year
from today's date

Increment use cnt
If MaxCnt=NULL, no
change to status

Sales transaction
created. Status=active

Coupon status = "sale"

Shopper makes credit
card transaction

Increment use cnt
If MaxCnt=NULL, no
change to status

Sales transaction
created. Status =
active

Shopper makes credit
card transaction

Return transaction
created.
Status=active.

Shopper makes return
transaction

Return transaction.
Status=rebated

Sales transaction.
Status=rebated.

TX date+return period >= today's date

Cash back calculated

# ShopExpert.com Offer Types

Here are the different offer types supported by ShopExpert.com:

- Offer type 1 - coupon can have unlimited use and the end date of the coupon is calculated. For example, the end date of the coupon is calculated to be 30 days from the day that the shopper creates the coupon. The number of days that the coupon is valid is gotten from Tbl_Offer.FrequencyInterval.
- Offer type 2 - coupon can have unlimited use and the end date of the coupon is fixed. For example, the end date of the coupon is fixed to February 28, 2000.
- Offer type 3 - coupon can have unlimited use and there is no end date to the coupon. This coupon is always good and always "on".
- Offer type 4 - coupon can have fixed number of uses and the end date of the coupon is calculated. For example, the end date of the coupon is calculated to be 30 days from the day that the shopper creates the coupon. The number of days that the coupon is valid is gotten from Tbl_Offer.FrequencyInterval.
- Offer type 5 - coupon can have fixed number of uses and the end date of the coupon is fixed. For example, the shopper can use the coupon x times by February 28, 2000.
- Offer type 6 - coupon can have fixed number of uses and the end date of the coupon is unlimited. For example, the shopper can use the coupon x times anytime. Once the shopper has used the coupon the specified number of times, the coupon is expired.

Each of these offers may specify weekdays or a blackout date range.

## Table schema

### Tbl_Offer

The ShopExpert offer types require the following fields in Tbl_Offer.

| Offer Type | Total Uses | | Coupon Period | | |
|---|---|---|---|---|---|
| | Unlimited | Fixed | Unlimited | Fixed | Calculated |
| 1 | X | | | | X |
| 2 | X | | | X | |
| 3 | X | | X | | |
| 4 | | X | | | X |
| 5 | | X | | X | |
| 6 | | X | X | | |

The number of uses and type of coupon period are the primary determinants of the offer type. Notice that the offer type is based on a variation of the above.

| Offer Type | Disc. | Min. Uses | Min. | Max. | Valid Days | Reward type |
|---|---|---|---|---|---|---|

| | Pct. | Qualifed | Purchase | Savings | Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | |
| 2 | | | | | | | | | | | |
| 3 | | | | | | | | | | | |
| 4 | | | | | | | | | | | |
| 5 | | | | | | | | | | | |
| 6 | | | | | | | | | | | |

| Offer Type | Formula_id | Parameters | |
|---|---|---|---|
| | | P1...P20 | S1...S4 |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |

These columns apply to all of the offer types.

- Discount percentage is the percentage applied to determine the cash back reward or the points reward.
- Minimum qualified uses specify the number of uses before the reward is paid. For example, if reward is only paid on the 4th purchase, then the minimum qualified use count will be 4. Remember that ShopExpert counts a use as a day. That is, one ShopExpert use is unlimited purchases on a single day.
- Minimum purchase amount specifies the minimum that must be spent in order to qualify for the reward.
- Maximum saving specify the maximum reward paid on the transaction.
- Valid days specify which day of the week the offer is good on. If the offer is good every day of the week, then all 7 days will be specified.
- The reward type specifies how the shopper will be rebated. Currently, there are two reward types: cash back and points.
- Formula defines how the rebate will be calculated. The formulas that ShopExpert supports are defined in the section Reward Formulas.
- Parameters to the formula are provided. Up to 20 numeric parameters P1-P20 and 4 string parameters S1-S4 are provided. The meaning of each field depends on the formula.

## Tbl_BlackoutDate

Tbl_BlackoutDate defines the dates for which an offer is blacked out. This table will define those blackout dates.

| Offer_id | BeginDate | EndDate |
|---|---|---|

This table sets up a mapping between offers and blackout dates. Blackout dates will not be implemented until January although the table will be defined now. Blackout dates will be specific dates such as 7/4/1999. They will not be general dates such as

7/4. If a single date is blacked out, then the begin date and the end date are the same.

# Reward Formulas

Formulas are defined to calculate the cash rebate or the points given to the shopper when an offer is redeemed. When creating an offer, one of the following formulas may be selected. Formula #1 is the default.

1. Standard offer
   Points/Cashback given = discount_percentage x transaction_amount
   This is our standard offer type where cash back is paid on a percentage of the transaction or points are paid on the transaction.

2. Fixed reward given on transaction
   Points/Cashback given = P1
   This is the case where a fixed number of points or fixed amount of cash back is given on the transaction. For example, 200 points for each transaction.

3. Reward based on transaction amount. 3 ranges possible.
   Amount >= P1 and <= P2. Points/Cashback given = P3
   Amount >= P4 and <= P5. Points/cashback given = P6
   Amount >= 7. Points/cashback given = P8

4. Extra reward given on first purchase. Extra reward goes to different award ID.
   Points for 1st purchase: P1
   Points for 2nd and subsequent purchases: discount_percentage *
   transaction_amount
   Points for first purchase associated with OEM_POID = S1
   Points for first purchase associated with OEM_Award_id = S2
   Points for first purchase associated with OEM_Vendor_id = S3

# Offer Examples

Below are a list of offers and how they translate to a ShopExpert offer:

- MyPoints-Wards: Earn 200 points with the first transaction. Earn 3 points for each $1 (expires 1/31/2000).
  - Offer type=2: unlimited uses, fixed expiration date of 1/31/00)
  - Minimum purchase=NULL. No minimum purchase.
  - Valid all days.
  - Reward type=points
  - Formula id=4.
    - P1=200
    - S1=POID
    - S2=Award_id
    - S3=Vendor_id
  - Discount percentage=5.
- Shell: Earn 50 points with a fill-up (min. $12 purchase, expires 3/1/00)

- Offer type=2: unlimited uses, fixed expiration date of 3/1/00
- Minimum purchase=$12
- Valid all days
- Reward type=points
- Formula id=1
- Discount percentage=50
- Walgreens: Earn 3 points for every dollar spent (min. $10 purchase, expires 3/1/00)
    - Offer type=2: unlimited uses, fixed expiration date of 3/1/00
    - Minimum purchase=$10
    - Valid all days
    - Reward type=points
    - Reward formula=Formula 1
    - Discount percentage=3
- Dominicks's: Earn 200 points for shopping 4 times by 2/15/00 (min. $20 purchase each time)
    - Offer type=5: fixed uses=4, fixed expiration date of 2/15/00
    - Minimum purchase=$20
    - Valid all days
    - Reward type=points
    - Reward formula=Formula 1
    - Discount percentage=200
    - Minimum qualified use=4
- Best Buy: Earn 20 points for every dollar spent on first visit (1/yr)
    - Offer type=4: fixed use=1, calculated expiration date=one year from offer activation
    - Minimum purchase=NULL: no minimum purchase
    - Valid all days
    - Reward type=points
    - Reward formula=Formula 1
    - Discount percentage=20
    - Minimum qualified uses=1
- Avis: Earn 500 points per day for any weekday rental (expires 3/1/00)
    - Offer type=2: unlimited uses, fixed expiration date of 3/1/00
    - Minimum purchase=NULL: no minimum purchase
    - Valid Mon-Tue-Wed-Thu-Fri. The only date that we have is transaction date. As a result, the transaction date must fall on Monday-Friday for this offer to be valid.
    - Reward type=points
    - Reward formula=Formula 1
    - Discount percentage=500
- Red Lobster: Earn 10 points for each dollar spent (expires 3/1/00)
    - Offer type=2: unlimited uses, fixed expiration date of 3/1/00
    - Minimum purchase=NULL: no minimum purchase
    - Valid all days
    - Reward type=points
    - Reward formula=Formula 1

- Discount percentage=10
- Target: 100,000 points to every 100th MyPoints Offline Shopper at Target (expires 2/15/99)

This offer is not supported. Firstly,the merchant will have to pay for each PQT and there are questions about how to count the 100th shopper. If the data is coming from two feeds such as VISA/MC and Amex, then how do we count?

- Home Depot: Earn 50 points for every $10 spent. Double points on all purchases over $1,000 (expires 3/1/00)
    - Offer type=2: unlimited uses, fixed expiration date of 3/1/00.
    - Minimum purchase=$10.
    - Maximum purchase=NULL: no limit on purchase amount.
    - Valid all days.
    - Reward type=points.
    - Reward formula: 3
        - For purchases of $10-$1,000: 50 points for every $10 spent.
        - For purchases of $1,001-unlimited: 100 points for every $10 spent.
- Blockbuster: Earn 5 points for every dollar spent Sunday-Thursday (expires 3/1/00)
    - Offer type=2: unlimited uses, fixed expiration date of 3/1/00
    - Minimum purchase=NULL: no minimum purchase
    - Valid Sun-Mon-Tue-Wed-Thu
    - Reward type=points
    - Reward formula=Formula 1.
    - Discount percentage=5

# Business Issue

Although the ShopTrack system can handle all the filtering for transactions, there is a cost of paying for transactions that don't qualify for cash back. ShopExpert (actually the merchant) will be paying for transactions that might not qualify for cash back.

The advantages of ShopTrack doing the filtering are:

- different offers can be created relatively easily as all of the development work would be in-house as opposed to getting the processing agents to do the development work.
- changes need only be done in one system as opposed to getting each processing agent to make changes.
- non-qualified transactions may be useful for data mining purposes.

The advantage of having the processing agent doing the filtering is to eliminate paying for transactions that don't qualify for cash back. This scenario only has merit if ShopExpert is paying for matched transactions. If ShopExpert pays for gross transactions, then there is no advantage in having the processing agent do the work.

The business issue is how to pass the costs of transactions to the merchant. For complex offers such as giving cash back only on certain days, then it may make sense

to pass the costs of unqualified transactions to the merchant.

**Last updated: January 28, 2000**

Exhibit C

The relationships between the different entities may be defined as follows:

1. (Stores, Store Sets) [M - N]
   Many stores can belong to a store set and a store can be in several store sets.

2. (Store Sets, Offers) [M - N]
   An offer can be over several store sets, a store set can be in several offers.

3. (Offers, Qualifying Conditions) [1 - N]
   An offer has several qualifying conditions and each qualifying condition appears in exactly one offer.

4. (Offers, Conversion Formula) [1 - N]
   An offer has several conversion formulas and each conversion formula appears in exactly one offer.

5. (Offers, Withdrawal Policy) [1 - N]
   An offer has several withdrawal policies and each withdrawal policy appears in exactly one offer.

6. (Offers, Reward calculations) [1 - N]
   An offer has several reward calculations and each reward calculation appears in exactly one offer.

7. (Accumulators, Conversion Formula) [1 - N]
   An accumulator can have several conversion formulas depending on the corresponding offer. Each conversion formula pertains to exactly one accumulator.

8. (Accumulators, Withdrawal Policy) [1 - N]
   An accumulator can have several withdrawal policies depending on the corresponding offer. Each withdrawal policy pertains to exactly one accumulator.

9. (Qualifying Conditions, Purchase Transactions) [M - N]
A purchase transaction can have multiple applicable qualifying conditions. A qualifying condition can be applicable to several purchase transactions.

10. (Qualifying Conditions, Return Transactions) [M - N]
A return transaction can have multiple applicable qualifying conditions. A qualifying condition can be applicable to several return transactions.

11. (Qualifying Conditions, Qualified Transactions) [M - N]
A qualified transaction can have multiple applicable qualifying conditions. A qualifying condition can be applicable to several qualified transactions.

12. (Qualifying Conditions, Reward Calculations) [N - 1]
A reward calculation can have multiple applicable qualifying conditions. A qualifying condition applies to exactly one reward calculation.

13. (Reward Calculations, Qualified Transactions) [M - N]
A qualified transaction can have multiple applicable reward calculations. A reward calculation can be applicable to several qualified transactions.

(Reward Calculations, Accumulators) [N - 1]
A reward calculation applies to at most one accumulator. An accumulator can have several applicable reward calculations.

With respect to reward processing, the processing
preferably occurs in two stages. In the first stage, the
reward category is preferably determined. Based on the reward
category, the appropriate reward calculation is performed.
Reward categories may be used to implement tiered or stepped
discounts. For example, if the purchase amount is less than
$100, offer a 5% discount, else offer a 10% discount. As
another example, a merchant may give its card members an
additional 5% discount compared to non-card members. Most
offers will typically have only a single reward category and
reward calculation. Each reward category has a corresponding
qualifying condition. The reward category condition is
similar to the offer condition. Thus, if there is only one
type of reward, the reward category condition is null.

Examples of reward calculations follow. The amount
involved in calculating the reward is called the *reward base*.

1. Fixed discount. For example, offer up to $5 off on
   transactions that exceed $50.

2. Percentage discount on some reward base. The reward
   base can be calculated in many ways.

   a. Reward base = (total transaction amount -
      threshold). For example, offer 5% of on
      transaction amounts that exceed $50.

   b. Reward base = (purchase amount on specific products
      - threshold). For example, offer 5% of on baby
      products purchases that exceed $50.

   c. Reward base = (aggregate transaction amount -
      threshold). For example, offer 5% of on aggregated
      transaction amounts that exceed $1000.

3. Discount = (purchase price - auction bid price). For example, a shopper makes a successful bid of $25 on a product that normally retails for $40. The discount amount is ($40 - $25) = $15. This handles the case of online/offline auctions. The shopper goes online to bid on products. The shopper then purchases the product offline with their registered card at the standard price. The manager recognizes this a qualified transaction and gives the shopper his/her qualified rebate so that the net effect is that he/she ends up paying the much lower auction or discounted price.

4. Discount = (purchase price -group discount price). For example, a shopper is part of a group that aggregates their purchasing power to obtain a lower price from the retailer on a specific product. In aggregated purchasing, the retailer or an intermediary offers tiered pricing based upon the number of shoppers that make any purchase or buy certain products at a store(s) during a specified period of time.

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What is claimed is:

1.    A method of providing rewards to members for certain
purchases made from selected merchants, the method comprising the
steps of:
        having members register one or more of their payment card
numbers;
        electronically publishing offers promoting discounts for
certain purchases;
        allowing members to electronically clip the electronic
offer by associating one or more of their registered payment card
numbers with the electronic offers; and
        maintaining a database of registered payment card numbers
and electronic offers, so that when a member uses a payment card
whose number has been registered to make a purchase to which an
electronic offer that the member has virtually clipped applies, a
reward is automatically provided to the member without further
action by the member.

2.    The method of claim 1 wherein the payment card is a
credit card and further comprising automatically crediting the
member's credit card account without further action by the member
when a member uses a payment card whose number has been registered
to make a purchase to which an electronic offer that the member has
virtually clipped applies.

3.    The method of claim 1 wherein the member has a reward
account with points and further comprising automatically adding
points to the member's reward account without further action by the
member when a member uses a payment card whose number has been
registered to make a purchase to which an electronic offer that the
member has virtually clipped applies.

4.    The method of claim 1 further comprising providing the
member with a gift certificate when the member uses a payment card
whose number has been registered to make a purchase to which an
electronic offer that the member has virtually clipped applies.

5.    The method of claim 1 wherein the step of allowing members to electronically clip the electronic offers further comprises clicking on the electronic offers.

6.    The method of claim 1 wherein the step of having members register further comprises entering the payment card numbers using an interface.

7.    The method of claim 1 wherein the step of having members register further comprises obtaining payment card numbers from an entity having existing users which have registered their payment card numbers with the entity.

8.    The method of claim 7 wherein the entity is an internet service provider and further comprising providing an interface on the web-site of the internet service provider for existing users of the internet service provider to register one or more of their payment cards.

9.    The method of claim 1 wherein the step of having members register further comprises entering consumer information using the interface.

10.   The method of claim 1 further comprising the step of providing electronic confirmation of a potential reward to the member.

11.   The method of claim 1 further comprising the step of providing electronic confirmation of the reward to the member.

12.   The method of claim 1 further comprising electronically notifying members of new electronic offers.

13.   The method of claim 1 further comprising electronically notifying members of expiring electronic offers associated with the member's registered credit card numbers.

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14.    The method of claim 2 further comprising providing in addition to the credit to the member's credit card account, a further reward.

15.    The method of claim 1 wherein the step of having members register further comprises registering the one or more payment card numbers only one time.

16.    A method of promoting sales at a store, the method comprising the steps of:

        providing electronic merchant offers;
        enrolling users based on at least one payment card number associated with the electronic offer; and
        providing a reward to the user when a purchase from a merchant offering the electronic offer is made using a payment card having the payment card number associated with the electronic offer.

17.    The method of claim 16 further comprising activating the electronic offer to create a virtual coupon.

18.    The method of claim 17 further comprising charging a merchant a fee for the sale resulting from the virtual coupon only when a purchase is made with the payment card having the payment card number associated with the virtual coupon.

19.    The method of claim 17 further comprising charging a merchant a fee for transaction information of sales resulting from the virtual coupon.

20.    The method of claim 17 further comprising tracking each purchase based on the virtual coupon and the associated payment card number.

21.    The method of claim 17 further comprising charging a merchant a fee for tracking information of the virtual coupon.

22. The method of claim 20 further comprising determining member purchasing behaviors and charging a merchant for information about the member purchasing behaviors.

23. The method of claim 17 further comprising charging a merchant a fee for initiating new users viewing the virtual coupons of the merchant.

24. The method of claim 17 further comprising charging a merchant a fee for previous consumers of the merchant using the virtual coupons.

25. The method of claim 16 further comprising maintaining a database of user data.

26. The method of claim 16 further comprising maintaining a database of merchant data.

27. The method of claim 16 further comprising maintaining a database of virtual coupon data.

28. The method of claim 16 further comprising maintaining a database of transaction data.

29. The method of claim 20 further comprising providing merchants for a fee, information regarding the effectiveness of the merchant's virtual coupons.

30. The method of claim 17 further comprising electronically notifying users of new virtual coupons.

31. The method of claim 17 further comprising electronically notifying users of expiring virtual coupons

32. The method of claim 17 further comprising arranging with affiliates to electronically publish virtual coupons.

33.   The method of claim 32 further comprising compensating each affiliate based on purchases resulting from the affiliate's promotion of virtual coupons.

34.   A method of promoting sales of a merchant with electronic offers, the method comprising the steps of:

electronically publishing offers promoting a discount for purchases made from the merchant;

allowing prospective customers to electronically clip the electronic offers by associating at least one of their credit card numbers with the virtual coupon; and

maintaining a database of credit numbers associated with the electronic offers so that when a purchase to which the electronic offer applies is made from the merchant using a credit card whose number has been associated with the electronic offer, an appropriate credit can be given to the credit card account.

35.   The method of claim 34 further comprising having the merchants contract for the electronic publishing of their electronic offers.

36.   The method of claim 34 further comprising activating the electronic offer to create a virtual coupon.

37.   The method of claim 36 further comprising providing a purchase receipt for the purchase to which a virtual coupon that the member has virtually clipped applies and wherein the credit is automatically indicated on the purchase receipt.

38.   A method of promoting sales of a merchant with virtual coupons, the method comprising the steps of:

electronically publishing an offer promoting a discount for purchases made from the merchant;

allowing prospective customers to electronically clip the electronic offer to create a virtual coupon by associating at least one of their payment card numbers with the virtual coupon; and

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providing a reward to a customer of the merchant who uses
a payment card whose number was associated with a virtual coupon to
make a purchase to which the virtual coupon applies.

39.    A method of promoting sales at a store, the method
comprising the steps of:
        electronically publishing offers promoting a reward at a
store to prospective customers of the store;
        allowing prospective customers to electronically clip the
electronic offers by associating at least one of their credit card
numbers with the electronic offer; and
        providing the reward to the customer when the prospective
customer subsequently uses a credit card that the prospective
customer associated with the electronic offer to make a purchase to
which the discount offered by the electronic offer applies.

40.    The method of claim 39 wherein the step of providing the
reward comprises automatically crediting a discount to the
customer's credit card account.

41.    The method of claim 39 wherein the step of providing the
reward comprises providing a reward certificate to the customer for
use with a subsequent purchase.

42.    The method of claim 39 wherein the step of providing the
reward comprises providing reward points to the customer for use in
other promotions.

43.    A system for providing discounts to members for certain
purchases made from selected merchants, the system comprising:

        a front-end subsystem configured to maintain current
discounts based on virtual coupons and provide a user interface;

        a back-end subsystem configured to maintain information
on the virtual coupons and qualified merchants and members;

a credit-back subsystem connected to the gateway configured to provide credit to credit cards of members based on discounts resulting from a transaction using a virtual coupon; and

a gateway providing communication between the subsystems.

44. The system of claim 43 further comprising a protection sub-system for protecting access to the back-end system.

45. The system of claim 43 wherein the front-end subsystem further comprises a plurality of additional subsystems.

46. The system of claim 43 wherein the back-end subsystem further comprises a plurality of additional subsystems.

47. The system of claim 43 wherein the gateway further comprises a plurality of additional gateways.

48. The system of claim 43 wherein the credit-back subsystem further comprises a plurality of additional subsystems.

49. A method of providing a reward to consumers for purchases made from a merchant, the method comprising the steps of:

having consumers register one or more of their payment card numbers;

electronically publishing offers promoting rewards for certain purchases;

allowing consumers to pre-purchase a product on-line with a registered payment card to reserve the product for off-line pick-up; and

allowing the pick-up of the product only when presenting the registered payment card which was used to make the on-line purchase.

50.    A method of providing a reward to consumers for purchases made from a merchant, the method comprising the steps of:

having consumers register one or more of their payment card numbers;

electronically publishing offers promoting rewards for certain purchases;

allowing consumers to reserve a product on-line with a registered payment card to purchase the product off-line; and

purchasing the product off-line only with the registered payment card which was used to make the on-line reservation.

18

34
CREDIT
INSTRUMENT

CONSUMERS

STORE
24

22

MERCHANT
COMPUTER

MERCHANT
PROCESSOR
40

28

CONSUMER
COMPUTER

14

PROCESSING
AGENT
44

CREDIT
INSTRUMENT
DATABASE
46

18

30

32

PDA    Modem

INTERNET
16

RULES BASED
ENGINE 48

CONSUMER

12

AFFILIATE
WEB SITE
26

WEB-BASED
CONSUMER
TRACKING
WEBSITE
20

COUPON
DATABASE
25

REGISTERED
CONSUMER
DATABASE
33

WEB-BASED SHOPPING
INCENTIVE SYSTEM

FIG. 1

US00



FIG. 2

Screen 1

Example of an ad banner on Productopia web site. When the ShopExpert.com banner is
clicked, then the shopper will be directed to a ShopExpert page where they can register
for the offer (see screen 2).



FIG. 3

Screen 2

This page shows the registration page that the shopper might see after clicking on the ad banner. Notice that the shopper is new to the system and without a cookie. Consequently, the shopper is requested to register.



our services | about us | contact us

FIG. 4

Screen 3

Once the shopper has registered, the system knows who the shopper is based on the cookie kept on his computer. This page shows that the shopper can send email to friends to notifying them about the offer and provide optional demographic information might be collected about the shopper. The shopper can updated his account information by clicking "My Account" (screen 4) or see his offers by clicking "My Offers (screen 5).

**ShopExpert.com**

**Congratulations! You're a ShopExpert!**

OUR SERVICE
FOR MERCHANTS
FOR AFFILIATES
ABOUT US

My Offers | My Account

**Thank You: Judy**                                        Tue, March 28th, 2000

You can make changes to your account at MyAccount. MyShopExpert is your personal guide to the best rebates on and off the web.

* **My Offers** - your wallet that contains the offers you have selected.

* **My Account** - add another credit card, remove a credit card and update your account information (password protected).

don't forget to
**Invite a Friend!**

Refer up to Five (5) friends and increase your chances! You will earn one extra ticket towards the drawing for each friend that signs up.

Enter email(s) below:

[ enter ]

**Click on the category(s) that interest you.**

| ☐ Arts, Crafts & Hobbies | ☐ Books & Magazines |
| ☐ Computer & Technology | ☐ Finances & Investments |
| ☐ Music & Entertainment | ☐ Sports & Recreation |
| ☐ Auto & Motor Vehicles | ☐ Business & Entrepreneurial |
| ☐ Family & Home | ☐ Health & Fitness |
| ☐ Shopping & Retail | ☐ Travel |

FIG. 5

Screen 4A

This page shows how the shopper might edit his credit card information. The credit card
information is stored in the Shopper Database.



| | | My Search | My Offers | My Account |
| --- | --- | --- | --- | --- |

ShopExpert.com

**Our Service**
**For Merchants**
**For Affiliates**
**About Us**
**Home**

HELP    LOG OFF

Profile
►Edit Profile

**Your Account Information**

**First Name**   Judy
**Last Name**   Hom
**E-Mail**   judy.hom@shopexpert.com
**Password**   ********
**Remind me before and offer expires?** Yes

**Your Registered Credit Cards**

**Name on Credit Card**   `J Hom` •
Name exactly as it appears on card

**Credit Card Number**   XXXXXXXXXXXX0035

**Card Type**   Visa

**Expiration Date**   Month: `05` ▼   Year: `2002` ▼

**Credit Card Nickname**   `gold`
optional

update   cancel

**Add Card**
**Add Card**
**Add Card**
**Add Card**

FIG. 6

Screen 5

This page shows the list of offers that have been activated for the given shopper. The offer is valid for any credit card that the shopper has registered with.

| Store | Offer | Exp. | Status | Savings |
|---|---|---|---|---|
| Bank America Merchant Services | Get 5% cash back with a Visa or MasterCard purchase | December 14, 1999 | Redeemed | $.00 |
| | | | Grand Total: | $0.00 |

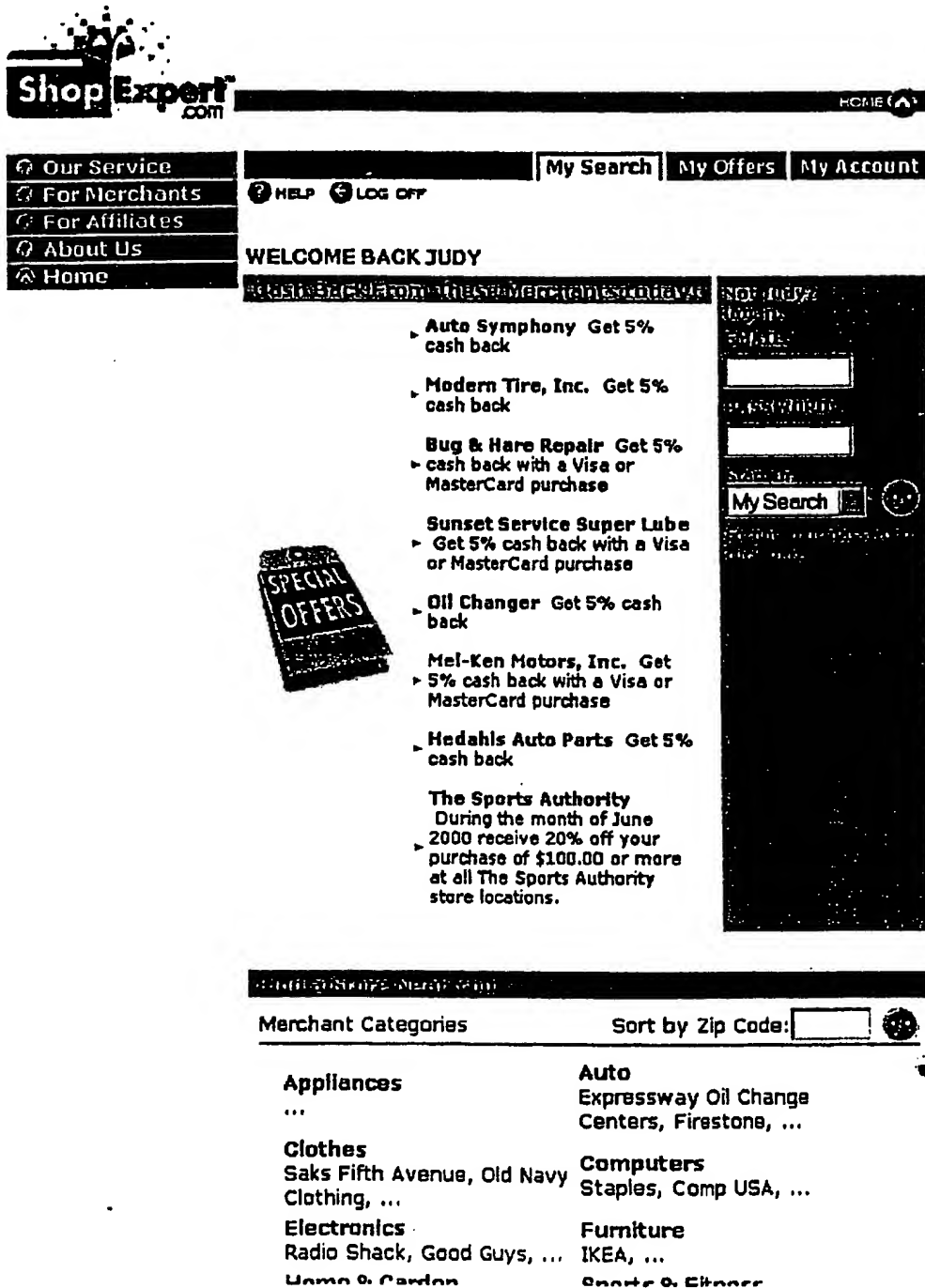ShopExpert.com       Home || Jobs || Our Service || For Merchants || For Affiliates || About Us
copyright 2000 ShopExpert.com

FIG. 7

Screen 6

This page shows a page where offers for merchants are featured on a web page. To look at the details of an offer, the shopper simply needs to click on the offer (see screen 7). Notice that the application knows the identity of the shopper because the application has determined the identity of the shopper through the cookie placed on his computer.

**Shop Expert.com**                                                          HOME ⌂

| ○ Our Service | | My Search | My Offers | My Account |
| ○ For Merchants | ❓ HELP  ⊕ LOG OFF |
| ○ For Affiliates | |
| ○ About Us | |
| ⌂ Home | WELCOME BACK JUDY |

Cash Back from these Merchants today:

▸ **Auto Symphony** Get 5% cash back

▸ **Modern Tire, Inc.** Get 5% cash back

▸ **Bug & Hare Repair** Get 5% cash back with a Visa or MasterCard purchase

▸ **Sunset Service Super Lube** Get 5% cash back with a Visa or MasterCard purchase

▸ **Oil Changer** Get 5% cash back

▸ **Mel-Ken Motors, Inc.** Get 5% cash back with a Visa or MasterCard purchase

▸ **Hedahls Auto Parts** Get 5% cash back

▸ **The Sports Authority** During the month of June 2000 receive 20% off your purchase of $100.00 or more at all The Sports Authority store locations.

My Search

Featured Store: Macys.com

| Merchant Categories | Sort by Zip Code: |

**Appliances**
...

**Auto**
Expressway Oil Change Centers, Firestone, ...

**Clothes**
Saks Fifth Avenue, Old Navy Clothing, ...

**Computers**
Staples, Comp USA, ...

**Electronics**
Radio Shack, Good Guys, ...

**Furniture**
IKEA, ...

Home & Garden
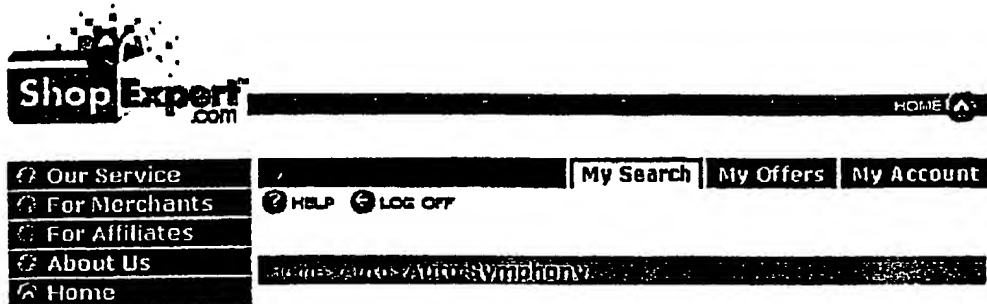
Sports & Fitness

FIG. 8

Screen 7

This page shows the details of the offer and allows the shopper to activate the offer.
Screen 8 shows that the offer has been activated.

**ShopExpert**.com                                                    HOME ⌂

| ○ Our Service | | My Search | My Offers | My Account |
| --- | --- | --- | --- | --- |
| ○ For Merchants | ❷ HELP ◉ LOG OFF | | | |
| ○ For Affiliates | | | | |
| ○ About Us | ...Auto Symphony... | | | |
| ⌂ Home | | | | |

**Offer Term**
Buy at Auto Symphony. Get 5% cash back
from ShopExpert.

**Offer Expiration**
This Offer Expires 30 days from the date you
activate it. You must make a purchase within
30 days to use the offer

**Products and Locations**          Zip Code: [        ]   ●
                                              New Search
                                              Expand Search

**Auto Symphony:** Come see and hear the difference. Cellular
Rentals & Sales. Auto stereos, alarms, DVD and navigation
systems professionally installed with lifetime warranties on
installation. The Bay Area's finest in car stereo equipment and
installation, with over twenty years of repair and servicing
experience.

📍 map          1525 Van Ness Ave
🗺 directions    San Francisco, CA
                94109
                Tel: 415-292-3300

📍 map          1525 Van Ness Ave
🗺 directions    San Francisco, CA
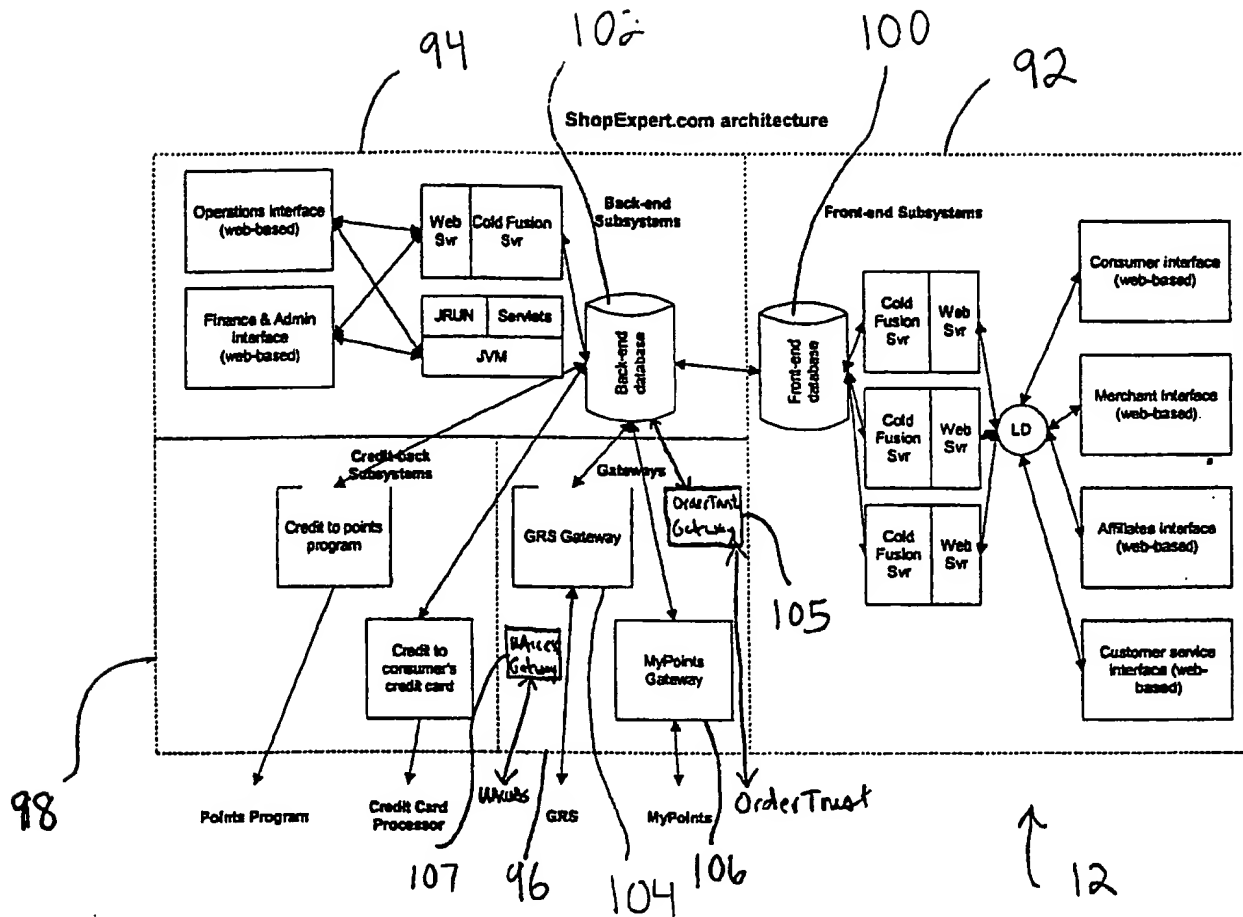                94109
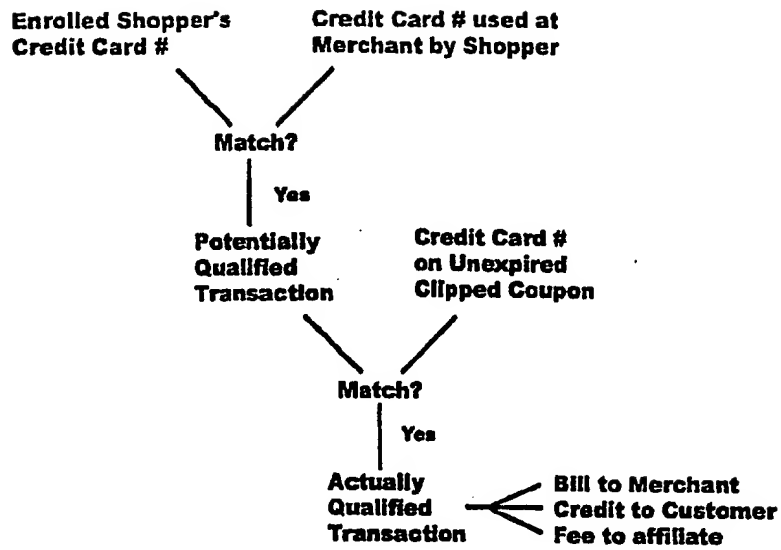                Tel: 415-292-3300

FIG. 9

FIG 10

Enrolled Shopper's    Credit Card # used at
Credit Card #        Merchant by Shopper

Match?

   Yes

Potentially      Credit Card #
Qualified        on Unexpired
Transaction    Clipped Coupon

Match?

   Yes

Actually        Bill to Merchant
Qualified        Credit to Customer
Transaction     Fee to affiliate

FIG. 11

FIG. 12
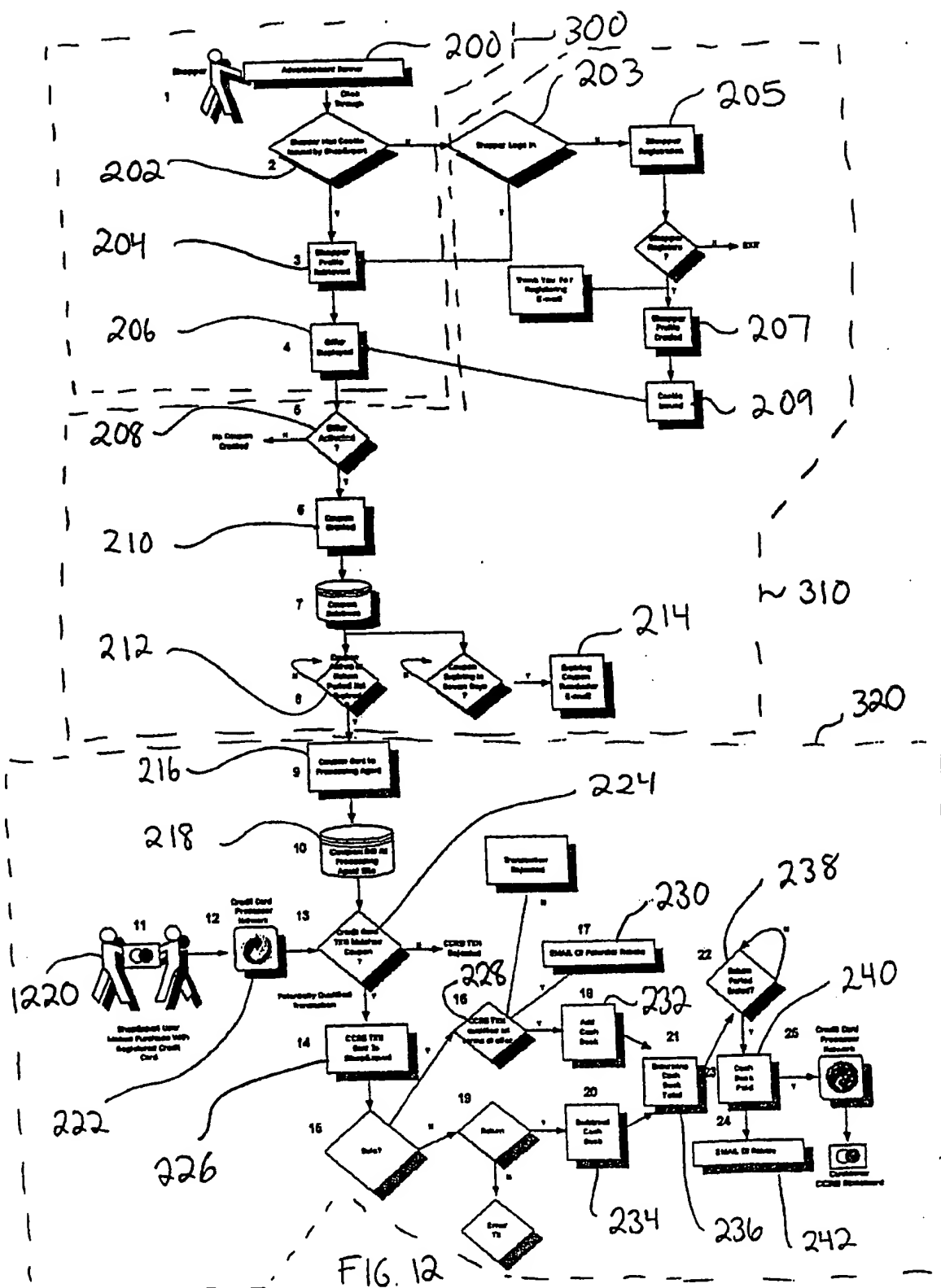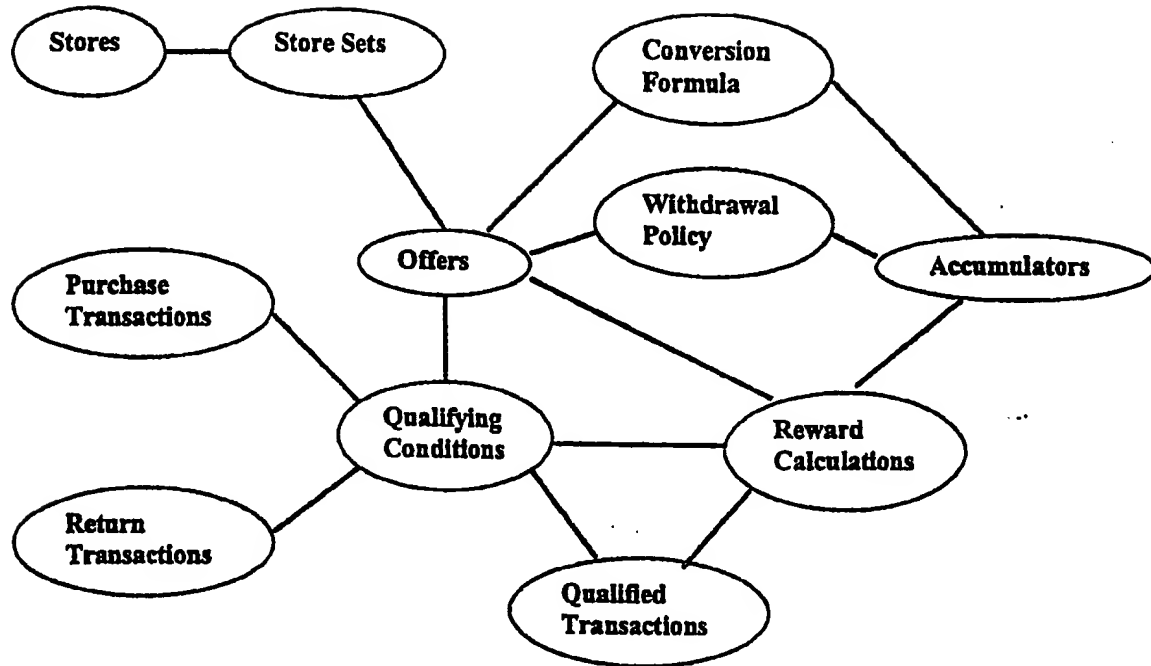
FIG. 13

# INTERNATIONAL SEARCH REPORT

| | |
|---|---|
| | It. ..ational application No.<br>PCT/US00/09759 |

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7)  : G06F 17/60
US CL  :705/14

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. :  705/14

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EAST, DIALOG, INTERNET

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|---|---|---|
| X,P | US 6,014,634 A (SCROGGIE et al) 11 January 2000, especially Abstract, col. 15, line 8 through col. 16, line 21. | 1-50 |
| X,P | US 5,970,469 A (SCROGGIE et al) 19 October 1999, especially Abstract. | 1-50 |
| A,P | US 5,956,694 A (POWELL et al) 21 September 1999, especially Abstract. | 1-50 |
| A,P | US 5,903,874 A (LEONARD et al) 11 May 1999, especially col. 2, lines 9-14. | 1-50 |
| A | US 5,806,044 A (POWELL) 08 September 1998, especially Abstract. | 1-50 |
| X | US 5,380,991 A (VALENCIA et al) 10 January 1995, especially col. 3, lines 13-53. | 1-50 |

☐ Further documents are listed in the continuation of Box C.     ☐ See patent family annex.

| | | | |
|---|---|---|---|
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| Date of the actual completion of the international search | Date of mailing of the international search report |
|---|---|
| 11 AUGUST 2000 | **18 SEP 2000** |

| Name and mailing address of the ISA/US<br>Commissioner of Patents and Trademarks<br>Box PCT<br>Washington, D.C. 20231 | Authorized officer<br>TOD SWANN |
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